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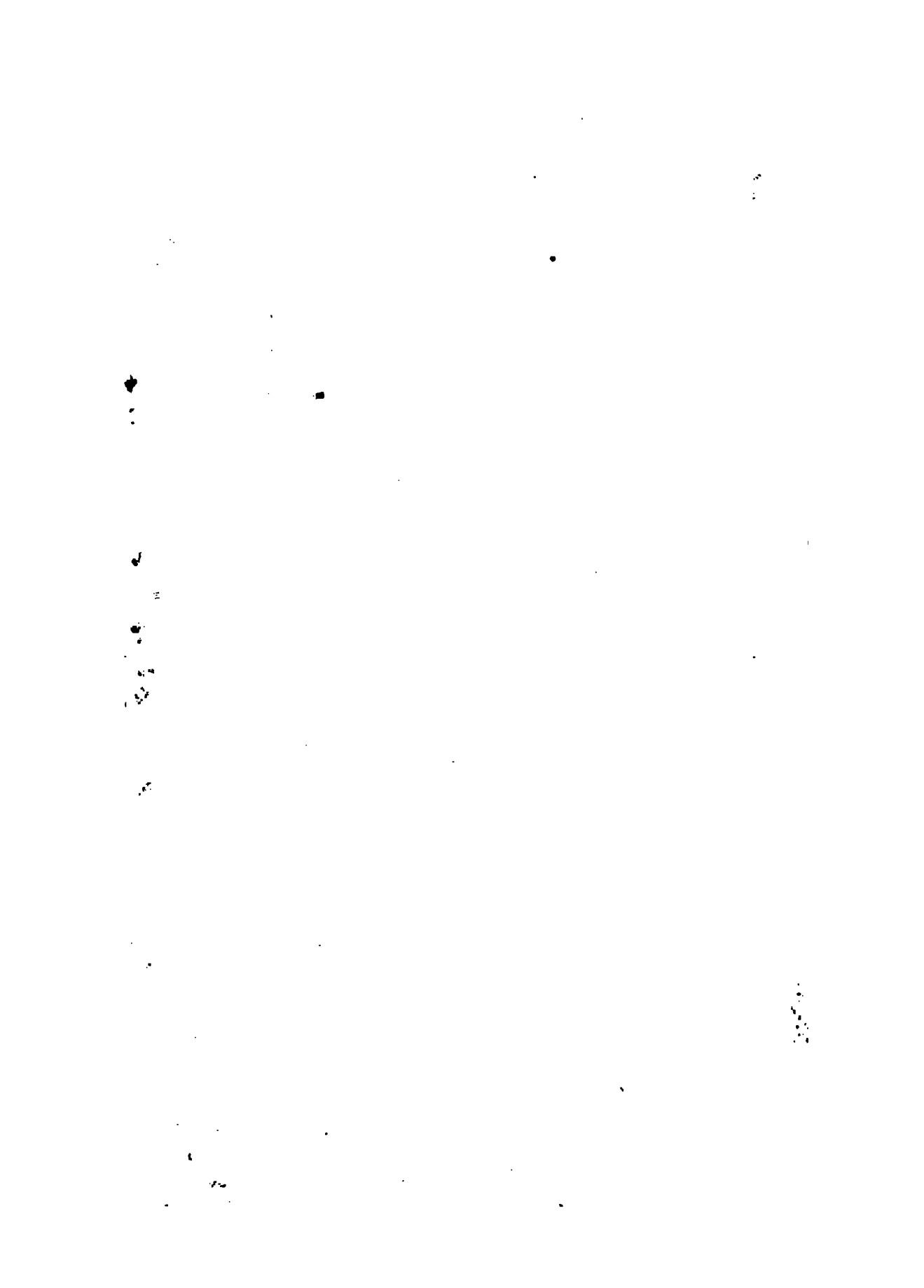
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A SYNOPTIS

OF

LECTURES

ON

MEDICAL SCIENCE;

EMBRACING

CLINICAL MEDICINE

The Principles of Medicine, or Physiology, Pathology, and Therapeutics,
as discovered in Nature; and the Practice according to
those Principles, as applied by Art.

BY

ALVA CURTIS, A. M., M. D.,

PROFESSOR OF THE INSTITUTES AND PRACTICE OF MEDICINE IN "THE BOTANICO-MEDICAL COLLEGE OF OHIO;" AUTHOR OF "LECTURES ON OBSTETRICS,"
"CRITICISMS ON ALL THE DIFFERENT SYSTEMS OF MEDICINE IN VOGUE,"
ETC.; AND FOR TWENTY-ONE YEARS EDITOR OF THE PHYSIO-MEDICAL RECORDER.

SECOND EDITION:
CAREFULLY REVISED, AND MUCH ENLARGED.



"Medicine is a demonstrative Science, and all its processes should be proved by established principles, and based on positive inductions. That the proceedings of Medicine are not of this character, is to be attributed to the manner of its cultivation, and not to the nature of the Science itself."—Prof. Samuel Jackson, M. D., of the University of Pennsylvania. *Principles of Medicine.*

"Because all systems which have hitherto been promulgated have been false, and consequently transient, it by no means follows that there may not be found one which will stand a tower of strength, unharmed by the rude shock of opposition's bursting wave, through all succeeding time; and such a theory, if conceived, may and will be formed of disease."—Dr. L. M. Whiting's Address at Commencement, Pittsfield, Mass.

CINCINNATI:
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25 WEST FOURTH STREET.

1858.



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P R E F A C E

T O T H E F I R S T E D I T I O N .

The following work was commenced seven years ago, and published within a short time after, to the extent of one hundred and twenty-eight pages, when, from the pressure of the times, it was suspended until last year. It was then resumed, and the part first proposed, as a synopsis of a course of lectures on Medical Science, is now completed.

This course of progress having been long enough, according to the common estimate of medical historians, "to produce an entire revolution in the doctrines of the science and the practices of the art," it affords me no small gratification, on reviewing its pages, to perceive, that, however numerous the deficiencies in the minutiae of practice, or hurried and imperfect the diction, or deranged the systematic order of some parts, in consequence of its having been composed and printed by piecemeal, I can perceive, in the whole work, no fundamental error taught, nor important governing truth omitted. To the mind of the truly philosophical physician, its faults will appear those of redundancy rather than deficiency, particularly in the directions for the treatment of the genera of disease. This, however, being demanded by the erroneous notions instilled into the minds of the people, by the false teaching of medical professors and practitioners, must be tolerated for the present. From thirteen years' experience in a very extensive application of these principles in practice, I am fully persuaded that they constitute "the demonstrative science, whose processes should proceed from established principles, and be based on positive deductions," (Professor Jackson,) and that the system developed in this volume, is the "one which will stand, a tower of strength, unharmed by the rude shock of opposition's bursting wave, through all succeeding time." (Whiting.)

Nor am I alone in this opinion. The many talented, learned, and conscientious young men, to whom they have been exhibited, in the B. M. College, for the last ten years, unite with me in the declaration that these principles enable them, in the language of Professor Chapman, "to bring into practice something of exactness;" to defend themselves against all the opposition of medical ignorance and prejudice, and to teach their fellow-men the folly and wickedness of violating nature's laws, in order to restore the equilibrium of her actions; and the wisdom and necessity of aiding her in her intentions in the removal of the causes of disease. And I may add, though I have not attempted to give, under each genus, all the trains of systems that may or may not occur, in the course of the "run," or the maltreatment of the derangements that are usually included under the name of that genus, yet I feel safe in declaring, that, in the course of the work, I have given the most important symptoms that ever occur in disease, and ample directions for their treatment. So that the person who makes himself complete master of these principles, will be able successfully to guard against a great proportion of the maladies of man, and to remove their causes on the first attack.

Though the principles and facts here set forth, will aid persons of all classes in society in preserving their health, their time, and money, to a great and valuable extent, yet the variety, connection and beauty of those principles, and the vast amount of practical conclusions, conduct, and consequences they involve, will soon convince all reflecting persons, that, to be safe and successful healers of the sick, in difficult and rare cases, they must be thoroughly educated in, and imbued by, these principles, and must devote their whole time to the practice of the art which they were made to govern; and hence, while they enlighten their own minds in regard to their physical liabilities and wants, and generally protect their own bodies from the encroachments of disease, they will be among the foremost to encourage the thorough education of young men for the profession, to discriminate between the physician and the charlatan, and to avail themselves of the wisdom and experience of the learned and skillful, in all cases of doubt, of difficulty, and danger.

The first numbers of this work having been printed in Columbus, where I could get neither good paper nor new type, make, I regret to say, a very poor appearance; but I remember that the people are not all so unwise as to judge of men by the clothing they wear, nor of gold by the ore in which it is first found; and I hope that they will not condemn this, my first and cheap edition, from the appearance of the first hundred and forty-four pages, but give it a thorough examination by logic, and demonstration by practice, according to its principles, and then they may abuse it as much as they please.

With these few remarks, I most respectfully dedicate the following pages to the service and defense of the many talented and highly respected young gentlemen, who called forth their principles and listened to their development, and also to the still more numerous and very kind friends, in all parts of the country, who, by their cash contributions during their progress, have enabled me to complete them, and especially those who, by their long, patient, and not only good natured, but very affectionate forbearance with my seeming tardiness, have greatly lightened the burden of my labors, and enabled me now to complete them.

A. O.

P R E F A C E

T O T H E S E C O N D E D I T I O N . *

THOUGH the first large edition of this work was soon exhausted, and the demand for more increased, yet I have suffered ten years to elapse without preparing a second. Many reasons exist for this course, but only three being interesting to the public, will be given here: First, I have been desirous to see these principles, and this practice, fully tested beside rival systems, before I should again recommend them, as superior to all others; secondly, I have delayed the work, that I might give it the benefit of my more extended experience, and that of others; and thirdly, so shape my plan, that it may accord with my own ideas of the natural and true, and yet not be so far in advance of the age as to be rejected for its novelty and innovations. (See the preceding Preface.) Satisfied that these ends are now attained, I send forth my second edition, with the confident assurance that they who make themselves thoroughly acquainted with its doctrines, and carry out the full spirit of its practical directions, will be the most successful practitioners of medicine on the globe.

This may seem bold, self-conceited, and arrogant; and it certainly is an assertion which my modesty would wholly forbid to see the light, did not my compassion for an ignorant, sinning, and suffering world, compel me to utter it, in the hope that it may point them to the proper sources of redemption. I ask no one to accept the above assurance, as well grounded; but will state a few simple facts, for the consideration of the reader.

I have now practiced medicine for twenty-five years, according to the principles here developed, and have had "a good run of business." I have never lost, in all that time, a single case of what is called idiopathic fever, either continued, remittent, intermittent, synochoid, typhoid, or typhus; never a case of scarlatina, measles, small-pox, nor erysipelas; not one case of summer complaint, dysentery, cholera-morbus, flux, nor teething; never one of hooping-cough nor croup; never a case of puerperal fever. I have never lost a case of rheumatism, acute nor chronic; not one of bronchitis; nor, so far as I now recollect, a single case of any acute, inflammatory affection, in which I was the first and the only physician, and very few in which my advice was adopted in consultation. I have never lost a woman in, nor on account of, parturition; nor any case in consequence of any surgical operation, of which I have performed many that were difficult and dangerous. My losses in cholera have not exceeded five or six per cent., including those that

* Though this is called the second edition of this work, it is, in reality, the third. As I was waiting on a case in Cincinnati, several years ago, I took up, from the table, a volume of my work, with a binding different from any that I had ordered. I opened it, and, to my surprise, found that it had been PUBLISHED IN ENGLAND, with high encomiums of the editor, of its merits. I intended to secure it; but the family soon left, and I have never since been able to find them. I do not recollect the name of the editor, nor the place of publication; but would be very happy to obtain a copy of the work.

A. C.

were hopeless when I commenced. My practice, in chronic cases, has been very extensive; the worst have been sent me from all parts of the Union. Of even these I have failed to cure but very few, in which there was any reasonable prospect of success, while I have restored to sound health, hundreds, that had given up all hope of recovery, though many had tried one, two, or three, and some nearly all of the most popular systems and practitioners of medicine of their time. I have raised, in a few days, and restored to usefulness and happiness, persons that had lain upon their beds as many years, under the treatment of the most distinguished doctors of the age—all upon the principles set forth in this work, and with the simple means here recommended. If others can not be alike successful, the fault will not be in the science nor the practice, the development of which I here most respectfully dedicate to all the lovers of truth, and the friends of suffering humanity.

A. C

Note.—I have treated and cured, by letters, multitudes of cases that I never saw. For example: H. L. had been long treated, in vain, for gastritis, hepatitis, etc., or inflammation of the stomach and liver, by many eminent physicians, among whom was the celebrated Dr. P. S. Physick, of Philadelphia. I cured him more than twenty years ago, by advice contained in a single letter. He is still alive and well. Mrs. C. had been long afflicted with "a complication of diseases," among which were prolapsus, and other uterine affections. She wrote me, asking advice for "some relief from her intolerable sufferings, until her husband should come home," which would be in about six weeks; "when he would contrive some means to convey her to my infirmary." I replied: she recovered her full health before her husband came home, and not only so, but by the same advice cured several of her family. Her neighbors hence called her doctor. She admitted the charge, and retorted, "they that can cure are the true doctors, and here (showing the letter) is what every doctor has not—a Diploma from my Preceptor." I have never heard of her death. J. C. F. came to me in 1836-7, afflicted with neuralgia, pectoris, etc.; had been treated without relief by Dr. V. Mott, of New York, etc. I cured him in a week, and he is still living and well. Lawyer—had an apoplectic fit in the Virginia Legislative Hall; was treated four years, by the most eminent doctors of Richmond, etc., and given up to die. I saw him once, gave him directions; in a few months he was cured, and returned to the practice of the law. Mrs. A., diseased for nine years, had the advice of the most distinguished physicians in the eastern cities, and the treatment of many in Cincinnati, and had worn all the instruments she had heard of. She came to me and was soon restored to comfortable health. Mrs. N. and Mrs. ——, long afflicted with hysterical fits, were in my Infirmary two weeks, and were perfectly restored. Mr. S., afflicted with epilepsy for years, was cured in a less number of weeks; had none for eighteen months afterward; since which I have not heard from him. Miss G., long afflicted with bronchitis, and doctored in vain, came to me in 1844, from Mississippi. Could not live in Ohio in winter. Cured her in ten weeks, and she is living now in the north—winter as well as summer. Mrs. H., ovarian dropy—had been treated and cupped by Drs. Mussey and Taliaferro, of this city. I treated her five months, tapped her three times, and cured her. Mr. B. had been sick nine years of "a complication of diseases," and treated by the most eminent doctors of Richmond, Virginia; had given up business, and made his preparations for the future state. He came to my Infirmary, and was cured in a month. Mrs. S. was attended for thirty days by Professor Cullin, of Richmond. She became dropical, and swelled to an enormous size. The doctor told her husband to call in her friends to see her die. He came for me. In two days she sat up in a chair, and in a week I found her barefooted, scrubbing her floors! Mr. C.'s servant had the scrofula, and was treated a year by Dr. C., an eminent physician of Richmond, but only grew worse. He brought her to me, and in a week she was well. Mrs. P. was afflicted every spring with erysipelas, which continued longer at each successive season. The Doctors McCraw told her that the next time she should have it she would die. That was very probable if they should treat her, for they only checked its external manifestations, while they made the disease worse within. The next spring it came on worse than ever before. She sent for me; was cured in a week, and never had it afterward. Her husband had "a fever sore" on his leg, which had penetrated to and affected the bone, so that pieces were constantly coming out. The same doctors said, that "the flesh must be opened and the bone scraped, and perhaps, a piece must be cut out." I cured him in three months, without any operation, and it never broke out afterward. In 1832, Dr. T., Principal of the Cholera Hospital, brought me a case which he said he could not cure, and desired to see me do it. In two hours the disease was broken, and the next day the patient was about his business. In 1849, the most eminent Homeopathic doctor of this city, left in the evening, on Mount Adams, a cholera patient as incurable by his skill. Her husband sent for me. She had a comfortable night's rest, and the next morning cooked the breakfast for them both! In a house on Mount Adams, eight patients were attacked by cholera. The physician of the hospital being called, thought that two children might be saved. He took them to the hospital, and left the other six patients as hopeless. I was immediately called. The two children died in the hospital—the six hopeless ones—lived! Two women, far advanced in *intra-gestation*, had the cholera, and the cramps of the fetuses could be distinctly felt. I treated them, and the whole four were saved! That was curing two patients with one medicine! Who beats that? In 1821, I had been "in a decline" for two years, and was obliged to quit my profession of teaching. The doctors said I had the consumption, and would not live long; I had better go to sea. But I did not like to be eaten by fishes! I studied medicine, (not quackery), cured myself, and very many others thus condemned, and hope to live to cure as many more. But time and space would fail to name the hundredth of such triumphs in disease of the eyes, the brain, the lungs, the liver, the spleen, the kidneys, the bowels, the joints, the genital organs, etc., etc., "they are legion."

A SYNOPSIS

or

LECTURES ON MEDICAL SCIENCE;

DELIVERED TO

The Students of the Physio-Medical College of Ohio,

BY

A. CURTIS, A. M., M. D.,

PROFESSOR OF THE THEORY AND PRACTICE OF MEDICINE, ETC.,

INTRODUCTORY LECTURE.

GENTLEMEN,—Presenting myself before you as an advocate of Medical Reform, it is manifestly my duty, first, to prove that medicine, as it is generally taught, understood, and practiced, is not what it should be. The evidences on which I may safely rest this proposition, are the concurrent declarations of the most enlightened professors and practitioners of medicine in modern times, and the innumerable failures of the practice, daily witnessed by us all, in cases in which we ought to expect success.

The denunciations of medical theories and practices, by professors and practitioners, are both general and particular. Permit me to present to you a few examples of each class:

I.—GENERAL DENUNCIATIONS OF MEDICINE.

SYDENHAM.—“Physic,” says Sydenham, “has ever been pestered with hypotheses, the multitude and precariousness whereof, have only served to render the art uncertain, fluctuating, fallacious, mysterious, and in a manner unintelligible.” * * “Certain it is, that not a single medicine has been discovered by their assistance, since their introduction into physic above two hundred years ago, nor have they let the least light into the affair of administering medicine properly in particular circumstances; but rather served to bewilder us, to perplex practice, and create disputes that are never to be decided without recourse to experience, the true test of opinions in physic.”—Preface, page 5.

“Our misfortune proceeds from our having long since forsook our skillful guide, *Hippocrates*, and the ancient method of cure founded upon the knowledge of conjunct causes that plainly appear, insomuch that the art which is this day practiced, being invented by superficial reasoners, is rather the art of *taking* than of *healing*.”—Ib., page 14.

DR. BROWN, who studied under the famous Dr. William Cullen of Edin-

burgh, lived in his family, and lectured on his system, (a system that has had as many advocates and practitioners as any other of modern times,) says, in his Preface to his own work, "The author of this work has spent more than twenty years in learning, scrutinizing, and teaching every part of medicine. The first five years passed away in hearing others, in studying what I had heard, implicitly believing it, and entering upon the possession as a rich inheritance. The next five, I was employed in explaining and refining the several particulars, and bestowing on them a nicer polish. During the five succeeding years, nothing having prospered according to my satisfaction, I grew indifferent to the subject; and, with many eminent men, and even the very vulgar, began to deplore the healing art, as altogether uncertain and incomprehensible. All this time passed away without the acquisition of any advantage, and without that which, of all things, is the most agreeable to the mind, *the light of truth*; and so great and precious a portion of the short and perishable life of man was totally lost. Here I was, at this period, in the situation of a traveler in an unknown country, who, after loosing every trace of his way, wanders in the shades of night."

I would here remark, once for all, that I do not always agree with the authors in all the sentiments quoted. I receive no man's mere opinions as infallibly true, until I have demonstrated them by evidences that will not admit of a doubt. For example, I can not admit with Dr. Brown, that he "had spent all that time without the acquisition of any advantage." He had discovered many a valuable fact for future use. If he had not learned, directly, what medicine was, he had discovered, indirectly, what it was not; and thus narrowed the limits of his fruitless researches, as well as stored up experience as the foundation of his future medical philosophy. I shall hereafter have occasion to show that such conclusions are very injurious to the mind that draws them.

DR. J. ABERCROMBIE, Fellow of the Royal Society of England, of the Royal College of Physicians in Edinburgh, and First Physician to His Majesty in Scotland, says: "There has been much difference of opinion among philosophers, in regard to the place which medicine is entitled to hold among the physical sciences; for while one has maintained that it 'rests upon an eternal basis, and has within it the power of rising to perfection,' another has distinctly asserted that 'almost the only resource of medicine is the art of conjecturing.'"¹—Intel. Pow., page 293.

D'ALEMBERT.—"The following apologue," says D'Alembert, "made by a physician, a man of wit and philosophy, represents very well the state of that science: 'Nature is fighting with disease; a blind man armed with a club—that is, a physician—comes to settle the difference. He first tries to make peace. When he can not accomplish this, he lifts his club and strikes at random. If he strikes the disease he kills the disease; if he strikes nature, he kills nature.'"² "An eminent physician," says the same writer, "renouncing a practice which he had exercised for thirty years, said, 'I am weary of guessing.'"³ Dr. Abercrombie continues:

"The uncertainty of medicine, which is thus a theme for the philosopher and the humorist, is deeply felt by the practical physician in the daily exercise of his art."⁴—Ib.

GREGORY.—"All the vagaries of medical theory," says Dr. Gregory of London, "like the absurdities once advanced to explain the nature of gravitation, from Hippocrates to Broussais, have been believed to be sufficient to explain the phenomena, [of disease,] yet they have all proved unsatisfactory."⁵—Practice, page 31.

"The science of medicine has been cultivated," continues Gregory, "more than two thousand years. The most devoted industry and the greatest talents have been exercised upon it; and, though there have been great improvements, and there is much to be remembered, yet upon no subject have the wild spirit and the eccentric dispositions of the imagination been more widely displayed. * * Men of extensive fame glory in pretending to see deeper into the recesses of nature than nature herself ever intended; they invent hypotheses, they build theories, and distort facts to suit their aerial creations. The celebrity of many of the most prominent characters of the last century will, ere long, be discovered only in the libraries of the curious, and recollected only by the learned."—Page 29.

I must here add that Dr. Gregory's statements respecting medical theories are endorsed by his American editors, Professor Potter, of the University of Maryland, and S. Calhoun, M. D., Professor in Jefferson Medical College, Pennsylvania—colleges which dispute for the honor of being ranked the first in the United States.

Dr. JAMES GRAHAM, the celebrated medico-electrician of London, says of medicine, "It hath been very rich in theory, but poor, very poor, in the practical application of it. Indeed, the tinsel glitter of fine-spun theory, or hypothesis, which prevails wherever medicine hath been taught, so dazzles, flatters, and charms human vanity and folly, that, so far from contributing to the certain and speedy cure of diseases, it hath, in every age, proved the bane and disgrace of the healing art."—Page 15.

DR. T. J. TODD says, "Medicine has never yet known the fertilizing influence of the inductive logic."

HAHNEMANN.—In Germany, the most intelligent and experienced physicians have been long convinced that the administration of heroic medicines, is not the true divine art of preventing and curing disease; and their late writers, among whom Hahnemann stands pre-eminent, have undertaken to reform the old practice, so far as to administer, with a cowardly, instead of a heroic hand, the ten-millionth part of a grain of poison, instead of two hundred and fifty grains.

LIEUTAUD.—One of the Parisian School, in the last century, Dr. Joseph Lietaud, Physician to Louis XVI, etc., said, in his Synopsis of Medicine, page 1, that, in what had been written before his day, he found it "difficult to disengage certainty from uncertainty, and to separate the useful from the trivial. Hence, many of no mean rank have doubted whether it would not be better to give up the undertaking, and confine themselves to new observations, out of which, when well investigated and arranged, there might be produced a sounder theory. I will leave this to the more learned, and only candidly and briefly publish what I have collected from a practice of thirty years."

For such opinions and actions, Professor Potter, in his translation, if memory serves me, says, "I am not worthy to hold a candle to him." But even this Synopsis did not answer, and many new theories have lately been formed in that school, among which, one of the latest and most celebrated, is that of M. BROUSSAIS. But even of this, which condemned all its predecessors, as others had done before it, Professor G. S. PATTISON, of the Jefferson Medical College, of Philadelphia, says, "This fact [that M. Andral can believe in somnambulism, which at one time could see only the state of the internal organs of the body, at another only that of the fluids] is worthy of being noticed; it teaches us that the mind which is credulous enough to give credit to *animal magnetism*, will believe any absurdity, even the greatest of all absurdities, the 'PHYSIOLOGICAL SYSTEM' of M. Broussais.

The student whose mind becomes infatuated by being taught to believe in the specious but most fallacious doctrines of Broussais, on entering on his profession, becomes a most dangerous character; and, unless he is induced to pause and discard his system, after the sacrifice of a few victims at its shrine, *the desolation he will produce*, in the district in which he practices, will be incalculable."

"It may be said, 'Surely a few leeches and a little gum water will kill nobody.' Let the physician never forget that it is his duty to cure his patients, and that, should he lose them by the employment of trifling and inert remedies, when they might have been saved by an energetic and vigorous system of treatment, he becomes really and truly their destroyer." [No, Dr Pattison ; not so bad as that.] "We do hope and trust," says this editor, "that the intelligent practitioners of this country, whose extensive practical knowledge of their profession, must have convinced them that the diseases of the United States are generally of the most acute character, and such as require for their cure, the most vigorous treatment, *will exert themselves to put down* the 'PHYSIOLOGICAL SYSTEM' of M. Broussais, which, we are sorry to find, is attempted to be inculcated and made fashionable, by the publication of that author and by teaching his doctrines."—Reg. & Lib., vol. i, page 7.

I can not forbear remarking here, that, under my own observation, those practitioners who followed, during the prevalence of the Asiatic cholera in 1832, the "vigorous treatment" indicated in the famous letter of instructions from the pen of this same Dr. Pattison, "produced a desolation" not indeed "incalculable," for it was easily embodied in the single word "universal," while the more cautious practitioners who did little or nothing—a practice more nearly allied to that of Hahnemann and Broussais—lost but very few.

DR. BENJAMIN WATERHOUSE, of the Harvard University, at Cambridge, near Boston, Massachusetts, who was one of the three Professors first appointed in the medical department of that institution, after lecturing in it for twenty years, retired, saying of all he had been so long and so zealously teaching, "I am sick of learned quackery."

DR. JAMES THACHER, author of the "American New Dispensatory," of "The American Modern Practice," "The Biography of American Medical Men," etc., says, "The melancholy triumph of disease over its victims, and the numerous reproachful examples of medical impotency, clearly evince that the combined stock of ancient and modern learning is greatly insufficient to perfect our science. * * Far, indeed, beneath the standard of perfection, it is still fraught with deficiencies, and altogether inadequate to our desires."—Mod. Practice, page 8.

DR. JACOB BIGELOW, Professor in Harvard University, says, in his Annual Address before the Medical Society in 1835, "The premature death of medical men brings with it the humiliating conclusion, that while the other sciences have been carried forward within our own time, and almost under our own eyes, to a degree of unprecedented advancement, medicine, in regard to some of its professed and important objects, (the cure of disease,) is still an ineffectual speculation."

DR. SAMUEL L. MITCHEL, late Professor in the Medical College in New York city, in his Preface to "Darwin's Zoonomia," says, "After the different projects for methodizing this department of knowledge, (medicine,) which have successively been offered to the public with so little advancement to true science, the friends of medical improvement, will joyfully accept of

something that promises to lead them from arbitrary system to natural method."—Page 29.

Of this "natural method," according to Dr. Mitchell, the late learned Dr. John Mason Good, Professor, etc., in London, says:

"How deeply is it to be regretted that so much genius and learning, so much valuable time and labor, and, above all, such lofty hopes and predictions, should have been productive of so small a result!"

While Darwin expresses the hope that he has laid the foundation of medical science on a basis "which shall stand unimpaired, like the Newtonian Philosophy, a rock amid the waste of ages," Dr. Good declares, (Nosology, page 29,) "No generous spirit can read this passage without a sigh; nor probably without exclaiming in the words of Pope:

"'O, blindness to the future—kindly given!'"

And I have somewhere read a statement of a late learned Professor, that the learned, ingenious, and voluminous works of this same Dr. Good, are worthy of a condemnation as severe as this above bestowed on Dr. Darwin.

DR. EBERLE says, (Prac. Med. Preface, page 6,) "It is now generally and very justly believed that the artificial, classic, ordinal, and specific distinctions of nosology, (the forte of Dr. Good,) have an unfavorable influence on the progress of comprehensive and philosophical views in pathology! Thus the whole foundation of that immense work, 'The Studies of Medicine,' is pronounced not only useless, but pernicious!"

DR. RUSH says, in his Lectures in the University of Pennsylvania, "I am insensibly led to make an apology for the instability of the theories and practices of physic. Those physicians generally become the most eminent who soonest *emancipate* themselves from the tyranny of the schools of physic. Our want of success is owing to the following causes: 1. Our ignorance of the disease. 2. Our ignorance of a suitable remedy." (Page 79.) This is total ignorance of all that is the most important in medicine.

DR. CHAPMAN, Professor of the Institutes and Practice of Physic in the University of Pennsylvania, remarks: "Consulting the records of our science, we can not help being disgusted with the multitude of hypotheses obtruded upon us at different times. No where is the imagination displayed to greater extent; and, perhaps, so ample an exhibition of human invention might gratify our vanity, if it were not more than counterbalanced by the humiliating view of so much absurdity, contradiction, and falsehood."—Therapeutics, vol. i, page 47.

"To harmonize the contrarieties of medical doctrines, is, indeed, a task as impracticable as to arrange the fleeting vapors around us, or to reconcile the fixed and repulsive antipathies of nature.—lb., page 23.

"Not the slightest of the causes which have conspired to retard the progress of physic, is the eagerness for rash and indiscreet generalization, by which, at all times, it has been distinguished. But if ever we are to strip our art of its 'glorious uncertainties,' (I should say more properly, 'its inglorious certainties,') and bring into the practice of it something of exactness, it will be by pursuing a *very different course*. To effect so important a *revolution*, we must studiously examine the phenomena of disease, and, with an attention no less unbiased, observe the operation of medicines. Thus, *perhaps*, we shall ultimately learn to discriminate accurately the diversified shades of morbid action, and to apply to each its appropriate remedies. As it is, we are plunged into a Dedalian labyrinth, almost without a clue. Dark and perplexed, our devious career, to borrow the fine illustration of a favorite

writer, resembles the blind gropings of Homer's Cyclops round his cave."—Ther., vol. i, page 49.

"Availing ourselves of the privileges we possess, and animated by the noblest impulses, let us cordially co-operate to give to medicine a new direction, and attempt those great improvements, which it imperiously demands."—Ther., vol. i, page 51.

I perfectly agree with Professor Chapman, in the above statements respecting what is taught in the schools for medical science, and will most cordially co-operate with him in effecting "so important a revolution" as "to bring into the practice something of exactness."

PROFESSOR JACKSON, of the University of Pennsylvania, tells us, in the Preface to his "Principles of Medicine," (page 1,) that "the discovery of new facts has shed a light which has changed the whole aspect of medical science, and the works which have served as guides, are impaired in importance and value; they lead astray from the direction in which the science progresses, and new ones are demanded, to supply the position in which they become faulty."

"The want of a treatise on the practice of medicine, in the room of those usually placed in the hands of students and young practitioners, had long been felt." * * * "At first I contemplated merely a practical book, compiled in the usual manner, founded on the experience of preceding writers, compared with, and corrected and extended by my own. I had made a considerable progress in this method, when I was arrested by the conviction that it was essentially defective; that it did not meet the spirit of the age; that it did not answer the purposes of a rational instruction; that it did not supply the deficiency I had felt to exist in the commencement of my profession; that it had been followed in a servile spirit, from the remotest eras of the science, and is, most probably, the cause that, after so long a period after its cultivation, its practice still continues of uncertain and doubtful application."

He therefore strikes out an entirely new path, and writes a large book, which is no sooner out of the press than Dr. J. V. C. Smith, of the Boston Medical and Surgical Journal, pounces upon it with severity almost equal to that of Dr. Pattison upon Broussais. So they go.

DR. JOHN EBERLE, Professor successively in Philadelphia, New York, Cincinnati, and Lexington, Ky., says of the fashionable theories of medicine: "The judicious and unprejudiced physician will neither condemn nor adopt, unreservedly, any of the leading doctrines advanced in modern times."—Pref. to Prac., page 1.

That is, not a tyro, mark it, but "the judicious and unprejudiced physician," the man who is best instructed in them, and the most capable of distinguishing between truth and falsehood, even such a man is not certain whether, not a few wild notions of some idle theorist, but "the leading doctrines," the fundamental principles of modern medicine are right or wrong! Shade of Dr. Eberle! you surely will not haunt me for trying to determine this unsettled question!

DR. L. M. WHITING, in a Dissertation at an annual Commencement in Pittsfield, Mass., said: "The very principles upon which most of what are called the theories involving medical questions, have been based, were never established. They are, and always were, false, and, consequently, the superstructures built upon them were as 'the baseless fabric of a vision'—transient in their existence—passing away upon the introduction of new doctrines and hypotheses, like the dew before the morning sun."—B. M. & S. Jour., vol. xiv, page 183; and,

"Because *all systems* which have hitherto been promulgated, have been false, and, consequently, transient, it by no means follows that *there may not be* found one which will stand a tower of strength, unharmed by the rude shock of opposition's bursting wave, through all succeeding time; and such a theory, it is conceived, may and will be formed of disease."—Ib., page 186.

"Speculation has been the garb in which medicine has been arrayed, from that remote period when it was rocked in the cradle of its infancy by the Egyptian priesthood, down to the present day; its texture varying, to be sure, according to the power and skill of the manufacturer, from the delicate, fine-spun, gossamer-like web of Darwin, to the more gross, uneven, and unwieldy fabric of Hunter; its hue also changing by being dipped in different dyes as often as it has become soiled by time and exposure. And what has been the consequence? System after system has arisen, flourished, fallen, and been forgotten, in rapid and melancholy succession, until the whole field is strewed with the disjointed materials in perfect chaos—and, among the rubbish, the philosophic mind may search for ages, without being able to glean from it hardly *one solitary well-established fact*."

"If this is a true statement of the case, (and let him who doubts, take up the history of medicine;) if that enormous mass of matter which has been, time out of mind, accumulating, and which has been christened *Medical Science*, is, in fact, nothing but hypothesis piled on hypothesis; who is there among us that would not exult in seeing it swept away at once by the besom of destruction?"—Ib., page 187-8.

For these sweeping denunciations of all the labors of his predecessors, Dr. Smith, of the Journal, pronounces Dr. Whiting an "original thinker," and his dissertation an "effort to diffuse light in regions of darkness." That is, the minds of some two hundred of the most enlightened medical men of Massachusetts! A fine compliment to these brethren! I shall hereafter show that I do not agree with Dr. Whiting, that, in all these labors "the philosophic mind may search for ages without being able to glean from it hardly one solitary well-established fact." I believe they have disclosed facts enough, if well understood, to establish the science of medicine on an immovable basis, and I am very far from desiring that all these facts should be "swept away at once by the besom of destruction." They have established many an important fact that I hope never will be forgotten. They have proved incontestably that a "physician should be nature's servant;" that "bleeding tends directly to subdue nature's efforts;" that "all poisons suddenly and rapidly extinguish a great proportion of the vitality of the system;" that whatever be the quantity, use, or manner of application, all the influence they inherently possess is injurious, and that they are not fatal in every instance of their use, only because nature overpowers them; in short, they have tried, and proved false and mischievous, so many errors and combinations of errors in theory and practice, that he who would now come at the truth, if he do no more than merely avoid the repetition of their fruitless and ruinous experiments, will so far diminish the chances of error, that any new plan he may propose must approximate near, very near, to the right. I might fill a folio of a thousand pages with similar "besom"-like denunciations of medicine as taught in the schools; but surely this is enough. Bear with me, however, while I present the view of my subject proposed by my second head, namely:

II.—PARTICULAR DENUNCIATIONS.

It is sometimes said that the above and similar denunciations are too general in their character, and that they are the results of disappointments and

difficulties in different cases ; whereas the several branches of medical theory and practice are generally pretty well understood. Let us examine these questions.

The important branches of the healing art must be the theory of disease and its divisions ; of the action of organs under its influence, and the nature, use, and *modus operandi* of remedies, etc.

"Disease," says Dr. Whiting, "has never, until lately, been investigated." Who knows anything about disease ? (Dissertation.) See Criticism, etc. ; 19, 22, 26 to 45.

Characters or symptoms of disease.—"Since medicine was first cultivated as a science, a leading object of attention has ever been to ascertain the characters or symptoms by which particular internal diseases are indicated, and by which they are distinguished from other diseases which resemble them. But, with the accumulated experience of ages bearing upon this important subject, our extended observation has only served to convince us how deficient we are in this department, and how often, even in the first step of our progress, we are left to conjecture. A writer of high eminence, (Morgagni,) has even hazarded the assertion, that those persons are most confident in regard to the characters of disease, whose knowledge is most limited, and that more extended observation generally leads to doubt."—Intel. Pow., pages 294-5.

PROFESSOR CHAPMAN says, "Perhaps we shall ultimately learn to discriminate accurately the diversified shades of morbid action, and apply to each its appropriate remedies. As it is, we are plunged into a Dedalian labyrinth, almost without a clue. Dark and perplexed, our devious career, to borrow the fine illustration of a favorite writer, resembles the blind gropings of Homer's Cyclops round his cave."—Ther., vol. i, page 49.

Progress of disease.—"If such uncertainty hangs over our knowledge of disease," says Abercrombie, "it will not be denied that at least an equal degree of uncertainty attends its progress. We have learned for example, the various modes in which internal inflammation terminates—as resolution, suppuration, gangrene, adhesion, and effusion ; but in regard to a particular case of inflammation before us, how little notion can we form of what will be its progress or how it will terminate !—Abercrombie, page 295.

Action of external agents.—"An equal, or even a more remarkable degree of uncertainty attends all our researches into the action of external agents on the body, whether as causes of disease or as remedies ; in both which respects, their action is fraught with the highest degree of uncertainty."—Intel. Pow., page 295.

"In regard to the action in external agents as causes of disease, we may take a single example in the effects of cold. Of six individuals who have been exposed to cold in the same degree, and, so far as we can judge, under the same circumstances, one may be seized with inflammation of the lungs, one with diarrhoea, and one with rheumatism, while three may escape without any injury. Not less remarkable is the uncertainty in regard to the action of remedies. One case appears to yield with readiness to the remedies that are employed ; on another, which we have every reason to believe to be of the same nature, no effect is produced in arresting its fatal progress ; while a third, which threatened to be equally formidable, appears to cease without the operation of any remedy at all."—Pages 295-6. See, also, page 23.

Experience of little value.—“When, in the practice of medicine, we apply to new cases the knowledge acquired from others, which we believe to have been of the same nature, the difficulties are so great, that it is doubtful whether in any case we can properly be said to act from experience, as we do in other departments of science.” * * “The difficulties and sources of uncertainty which meet us at every stage of such investigations, are, in fact, so numerous and great, that those who have had the most extensive opportunities of observation, will be the first to acknowledge that our pretended experience must, in general, sink into analogy, and even our analogy too often into conjecture.”—Abercrombie, Intel. Pow., page 299.

“What is called experience in medicine,” says Professor Jackson, “daily observation and reflection confirm me in the conviction, is a fallacious guide, not more entitled to the implicit confidence claimed for it, than when it was thus characterized by the great father of the science—*fallax experientia*. In fact, experience can not exist in medicine, such as it is in those arts in which experiments can be made under circumstances invariably the same,” etc. And, after proving what he had said, he adds, “But medicine is a demonstrative science, and all its processes should be proved by established principles, and be based on positive inductions. That the *proceedings* of medicine are not of this character, is to be attributed to the manner of its cultivation, and not to the nature of the science itself.” Hence, he “abandoned” his first “plan,” and “attempted the establishment of [new] principles of general application,” etc.

Here we have the positive declarations of an able and approved Professor, that “the proceedings” of medicine are not science; that he believes there is such a thing as medical science capable of demonstration, and that his book is “an indicator to the line of march now taken up” toward this demonstrative science, which he has not yet discovered. Surely Dr. Jackson will delight to see even our little taper volunteer its services to aid his own brilliant flambeau, in bringing into view this much desired, long sought, but still, to him, eluding science.

Fever.—According to the doctrines of the schools, *fever*, in its various forms, is at once the most common, the most obstinate, and often the most dangerous enemy with which they have to contend. But what do they know of it? Hear their own declaration:

“Fever,” says Gregory, “Is the most important, because the most universal and the most fatal of all the morbid affections of which the human body is susceptible.” * * “The physician must always be prepared to expect its occurrence. It is that, by the presence or absence of which, all his views of treatment are to be regulated; whose rise, progress, and termination, he always watches with the closest attention. [He surely ought to have learned something about it by this time, if he has so watched it for four thousand years.] Some idea may be formed of the great mortality of fevers from the statement of Sydenham, who calculated that two-thirds of mankind die of acute diseases, properly so called; and two-thirds of the remainder, of that lingering, febrile disease, consumption. Fever has proved a fertile theme on which the ingenuity of physicians in all ages has been exerted; and a glance at the attention which it has received from every medical author, both ancient and modern, would be sufficient to impress upon any one, the importance of the doctrines it embraces.”

“How difficult is the study of fever, may be inferred from this, that, though so much has been written concerning it, there is no one subject in the whole

circle of medical science, which still involves so many disputed points." Still, much as they are disputed, the Doctor adds, "The doctrines of fever are of paramount importance, and therefore constitute, with great propriety, the foundation of all pathological reasoning."—Greg. Practice, vol. i, pages 43-4.

"It has been a favorite topic of inquiry among all writers on fever, What is its nature? In what particular state of the fluids or solids does it consist? The subject has been prosecuted with great diligence, but the result of the investigation is very unsatisfactory. * * All their theories are open to many and strong objections."—Ib., pages 49-50.

"The pathology of fever is so obscure, that it affords but little help in determining the plan of treatment."—Page 35.

DR. THACHER, the verable author of the American New Dispensatory, says:

"Notwithstanding the great prevalence of fever in all ages and in all climates, and the universal attention which it has excited among medical observers ever since the days of Hippocrates, the disease still remains the subject of much discussion; and its essential nature, or the proximate cause of its symptoms, is still a problem in medical science."—Thacher's Practice, page 198.

"The history of Practical Medicine consists of little else than a review of the doctrines which have risen and sunk again, concerning the nature and treatment of fever." * * "It is in this department that observation and research have been most industrious in accumulating materials, and that hypothesis has luxuriated in her wildest exuberance."—Eberle's Prac., vol i, page 13.

Inflammation.—Next to fever, medical men count inflammation the most terrible enemy to life. But what do they know about it? Dr. Thacher says:

"Numerous hypotheses or opinions respecting the true nature and cause of inflammation, have for ages been advanced, and, for a time, sustained; but even at the present day, the various doctrines appear to be considered altogether problematical."—Prac., page 279.

Hundreds of similar testimonies respecting pathology might be adduced; but time and space forbid.

MACKINTOSH asks, "Who knows anything about disease?" And he gives abundant cases to prove that not a few of the most eminent physicians of the present or past century, knew very little about it.

DR. L. M. WHITING, after summing up the attainments of the most eminent physicians in all ages, on the subject, asks what they knew, and answers for them, "Nothing—absolutely nothing!" True, he intimates that the "scalpel of the pathologist," will yet develop the matter; but Morgagni says, "They who have examined the most bodies are the most doubtful of the correctness of any information from them;" and

RUSH, still more bold, honest, and candid, says:

"Dissections daily convince us of our ignorance of the seats of disease, and cause us to blush at our prescriptions." "What mischiefs have we done under the belief of false facts and false theories! We have assisted in multiplying disease; we have done more—we have increased their mortality." (Rob., page 109.) Mackintosh gives practical proofs of this in his account of surgical operations for dropsies and tumors in the pelvic region.

DR. GOOD says, "The language of medicine is an unintelligible jargon."—Nosology, page 35-44.

DR. CHAPMAN, says, "The *Materia Medica* is crude, wild, and unregulated."—Vol. i, page 31.

Blood-letting.—"We have no infallible index to direct us. It is impossible, from the state of the circulation in fever, to point to any certain criterion for the employment of the lancet; the state of the pulse is often ambiguous and deceptive. Circumstances require the nicest discrimination, as the result is often very different in cases seemingly analogous. A precipitate decision is fraught with danger, and a mistake may be certain death."—Thacher's Practice, page 208.

"Some patients are bled who do not require it, and the consequences are injurious; others are bled who can not bear it, and who ought to be treated by cordials, and the result is fatal."—Mackintosh, page 690.

"No physician, however wise and experienced, can tell what quantity of blood ought to be taken in any given case."—Ib., page 418.

"In putrid fever, bleeding is not advisable, the loss of a few ounces of blood being equivalent to a sentence of death."—Gentlemen's Medical Pocket-Book, page 35.

DR. HUNTER said, "Blood-letting is one of the greatest weakeners, as we can kill thereby."

PROF. J. F. LOBSTEIN says, "So far from blood-letting being beneficial, it is productive of the most serious and fatal effects—a cruel practice—a scourge to humanity. How many thousands of our fellow-citizens are sent [by it] to an untimely grave! how many families are deprived of their amiable children! how many husbands of their lovely wives! how many wives of their husbands! Without blood there is no heat, no motion in the system—in the blood is the life. He who takes blood from the patient, takes away not only an organ of life, but a part of itself."—Essay on Blood-letting.

"So zealous are the blood-suckers of our age," says Salmon, in his "Synopsis Medicinæ," "that they daily sacrifice hundreds to its omnipotence, who fall by its fury, like the children who, of old, passed through the fire to Moloch, and that without any pity, left to commiserate the inexorable sufferings of their martyrs, or conscience of their crimes, which may deter them in future from such villainies, the bare relation of which would make a man's ears tingle, which one can not think of without grief, nor express without horror!"

"An eminent physician has said that, after the practice of blood-letting was introduced by Sydenham, during the course of one hundred years more died of the lancet alone, than all who in the same period, perished by war."—Rob., page 171.

"It would appear, that the first, or inflammatory stage of puerperal fever, the stage in which bleeding has been so eminently successful, has no *discovered character* by which it can be distinguished from the second, in which this operation is forbidden, after the lapse of a few hours."—Deweese on Females, page 441.

"We would ask, What is the evidence that the first stage has run its course? This is an important question, and one, from our present data, that can not, we fear, be answered satisfactorily. Hitherto this condition of the disease has been inferred rather than ascertained."—Ib., page 438.

The same author says, (page 372,) "Our bleedings are not always renewed from the arm; for, as soon as we get the pulse pretty well down by this means, we have leeches applied over the parts nearest to the seat of the inflammation, in such numbers as shall abstract at least eight or ten ounces of blood, and

encourage their after bleeding by the application of moist warmth. Should these abstractions of blood not prove effective, and pain, fever, and other unpleasant symptoms continue, but especially great pain and tenderness in the parts; if the pulse does not call for general bleeding, we repeat the leeching, nor stop until the end is answered, or until we are convinced our efforts will be unavailing, by the approach of the second stage, or by the addition of peritoneal inflammation."

Dr. J. M. Good says, "The immediate effect of profuse and repeated bleeding, is exhaustion. While this exhaustion continues, there is a diminution of action of every kind, and hence an imposing appearance of relief to the symptoms of disease; but it no sooner takes place than an instinctive effort is made, by the *vis medicatrix naturae*, to remedy the evil hereby produced, and to restore the system to its former balance of power. This balance is called a rallying or reaction of the living principle. The arteries contract to adapt themselves to the measure of blood that remains; the sensorial organ is aroused to the secretion of a large proportion of nervous power to supply the inordinate drain that takes place during the general commotion, all is in a state of temporary hurry and urgency, and for the most part irregularity of action, while the instinctive effort is proceeding. And hence, no sooner is the immediate effect of prostration, exhaustion, or syncope, overcome, than the heart palpitates, the pulse beats forcibly with a jerking bound, the head throbs, the eyes flash fire, and the ears ring with unusual sounds. Now, it often happens that these concurrent signs are mistaken for proofs of latent or increased vigor, instead of being merely proofs of increased action; and action, too, that adds as largely to the exhaustion as the depletion that produced it; and the unhappy patient is bled a second, a third, and even a fourth time, until no reaction follows, at which time, it is strangely supposed that the entoma, plethora, or inflammatory diathesis, is subdued and lulled into a calm, because the patient has been so far and fatally drained of his living principle, that there is no longer any rallying or reactive power remaining, and gives up the ghost, in a few hours, *to the treatment*, instead of the disease."—Study of Medicine, vol. i, page 407.

Here we have the direction of Dr. Dewees, to bleed "as long as the unpleasant symptoms continue," and the declaration of Dr. Good, that those symptoms *will continue* "until the patient has been so far and so fatally drained of his living principle, that there is no longer any rallying or reactive power remaining, and gives up the ghost, in a few hours, *to the treatment*, instead of the disease!"

Hence, to bleed scientifically, as taught in Philadelphia and London, and wherever else these text-books of the highest authority are adopted, is to bleed until the patient "gives signs of woe that all is lost." Or, in plain English, it is to commit willful murder.

Purgatives.—"Many patients are over-purged with drastic medicines, to the aggravation of the disease, while others are bunged up with opium."—Mackintosh's Pathology, page, 690.

"*Purgatives*, besides being uncertain and uncontrollable, often kill from the dangerous debility they produce."—Gregory's Practice of Physic, page 94.

"Such is the diversity of circumstances, in different examples of fever, and so great is the uncertainty of the effects of mercury on the system, that no precise rule for its administration can be given or regarded."—Thacher's Pract., page 214.

"*Mercury*, in some instances, exhibits at once all the phenomena of a poisonous action, productive of the most mischievous, and sometimes even fatal, consequences."—Chapman's Therapeutics, vol. ii, page 258.

"*Mercury*," says Dr. Rush, "is the *Goliath of Medicine*." It is certainly a Goliath to destroy; it is the uncircumcised Philistine of medical science, who defies the living armies of the living God. The numbers slain by his arm, let India, and America, and the world witness. The multitude of the valley of Hamon Gog would not equal their countless hosts, if mustered on the field of battle.

"The '*heroic medicines*,' as they are emphatically called, deserve, indeed, a considerable share of the praise of the Cæsars and Alexanders of the world; powerful to destroy, heroic in blood, and havoc, and desolation! It was the boast of Alexander, 'I have made Asia a desert, I have trampled down its inhabitants, and prostrated its ancient renown.'" (Robinson, page 141.) Poisons have done more.

Opiates.—"The habitual use of these destructive palliatives," is condemned by Dr. Eberle, as "never failing to operate perniciously on the whole organization."

Poisons in general.—"Notwithstanding the various modes of their action, and the difference in many of their symptoms, they all agree in the sudden and rapid extinction of a great proportion of the vitality of the system."—Med. and Surg. Journal, vol. ix, page 43.

HOOPER says, "The most active in small doses, form the most valuable medicines."

BARTON says, "Poisons are, in general, good medicines."—Med. Botany.

I have no doubt that "the lancet and poisons," as many eminent physicians have declared, "have destroyed more lives than the sword, pestilence, and famine." Yet these are the articles of medicine most relied upon in the treatment of disease.

I remark, again, that a folio might have been added on this head; but I trust enough has been given to justify Dr. Whiting in the declaration:

"We may apply to therapeutics, so far as the *materia medica* is concerned, the same sweeping phrase which we have already had the temerity to introduce with regard to pathology—that it is a perfect chaos."—Dr. Whiting, B. M. and S. J., vol. xiv, page 189.

Science.—I might assign, as another reason, why I am an advocate of medical reform, the fact that medicine, as taught in the schools, is not science.

DR. ABERCROMBIE says, (page 24,) "The object of all science, is to ascertain the established relations of things, or the tendency of certain events, to be uniformly followed by certain other events."

But, on page 292, he proves medicine to be "the art of conjecturing," the "science of guessing."

DR. GREGORY says, (Practice, vol. i, page 34,) "The perfection of every science, consists in the exact assignment of effects to their causes, and the expression of their operation in intelligible language. But on page 29 he says: "Upon no subject have the wild spirit, and eccentric dispositions of the imagination been more widely displayed than in the history of medicine."

DRS. GREGORY, (page 1,) Bigelow, (Annual Address,) Hooper, Hays, and others, say that "the object of medical science is to prevent and cure disease."

But I have proved by the testimonies above, that the art of preventing and curing disease, is neither taught nor understood in the schools.

DR. JACKSON says, (Principles, page 11,) "The true science of medicine is a demonstrative science, and all its processes *should* proceed from established principles, and be based on positive inductions. That the *proceedings* of medicine *are not* of this character, is to be attributed to the manner of its cultivation, not to the nature of the science itself." * * * "Let medical science be prosecuted in the spirit, and its investigations be conducted under the precepts, of a positive philosophy, and there can be no hesitation in believing that a degree of certainty *will* attach to the calculations, and attend the practice of the science, [calculations of the science and the practice of the art,] of which, at present, it is difficult to form any comprehension."

Here we have not only proof that we ought to be reformers in medicine, but great encouragement to become such. Similar encouragement is given by Drs. Rush, Mitchell, Waterhouse, Bigelow, and thousands of others, both dead and living. The same Dr. Whiting, who said (Medical Journal, vol. xiv, page 181,) that "disease has never, until quite recently, been investigated," says also, (page 185,) that "there may and will be formed, a system, [or theory of medicine,] which shall stand a tower of strength, unharmed by the rude shock of opposition's bursting wave, through all succeeding time." * * And, (page 189,) "A theory of therapeutics *will* be formed, which shall be as immutable as any other natural law." And he adds, too, that "this is to be done simply by observation and experiment." Just as we are doing it in the physio-medical practice. Gentlemen, let *us* enter the lists, and contend manfully for this glorious prize which is yet to be won.

After such an exhibition of the fruitless, the melancholy, and often destructive and devastating results of medical theorizing and experimenting, for four thousand years, is it a matter for reproach—nay, is it not praiseworthy—in any man to declare himself a friend to medical reform, improvement, or even revolution, if the Art of Healing can not be acquired without it? But I hasten to my *third proposition—the daily failures in the practice to cure, and its terrible policy to kill!*

It may be said that all the above are mere opinions—that the true healing art is understood and practiced by the great mass of enlightened physicians of the present day. To this I oppose—

First—The testimony of those very men who most ardently and ably support it. Testimony against one's *self*, is admitted to be the strongest that can be adduced. If they understood the art, they would surely "heal themselves," if no more. But what say they?

"The premature death of medical men," says Bigelow, "brings with it the humiliating conclusion that, while the other sciences have been carried forward within our own time, and almost under our own eyes, to a degree of unprecedented advancement, medicine, in regard to some of its professed and most important objects, (the cure of disease,) is still an *ineffactual speculation*."—Annual Address, 1835.

RUSH exclaims, "We have assisted in multiplying diseases; we have done more: we have increased their mortality."

Add to these the declarations above quoted, respecting the injurious influence of their heroic medicines; and, if any thing more is wanted, I refer to my Criticisms, etc., page 25 to 45, and to the devastation which disease is continually making under your own observation, in the health, comfort, constitutions and lives of your friends and neighbors and society around you,

(in charity I will say, notwithstanding the utmost efforts of the most intelligent and benevolent physicians to stay his ruthless hand,) and now I ask if it be not praiseworthy in me, to stand up before you, the fearless and uncompromising advocate of radical reform in the science of medicine?

Gentlemen: I am one of six children whom my parents raised to maturity without the aid of doctors or poisons, and sent out into the world with constitutions in a healthy state. In process of time they were all attacked with disease, and five of the six applied for relief to the advocates of medicine as taught in the schools. Though, in all these cases, the vital energies contended long and fiercely with the terrible *Goliaths* of the art, yet, eventually, the envenomed fangs of that reptile system were fastened so deeply upon their vitals, that four of the five, after "lingering from four to eight years of miserable existence, in extreme debility and emaciation," most heartily welcomed death, as "a friendly stroke, to put a period to their sufferings;" while the fifth, my worthy brother, Dr. Samuel Curtis, of the New York College of Physicians, is only lingering a little longer, in consequence of having arrested the execution of the blow, by a thorough and judicious use of "nature's remedies."

I, too, was sick, as well as they. I, too, was entreated by my medical, as well as other friends, to use the curative means prescribed by the boasted science of medicine; and so anxious were the former to save what they called a useful life, that some of the most distinguished of them, offered me their services without reward. But, happily for me, I had studied too thoroughly, before I needed their art, the books containing their science, and seen too much of their empirical and desolating practice, to have any confidence in their ability to cure me. Hence, it is doubtless attributable to my total rejection of their heroic remedies, that I now stand before you, like the unscathed oak in the midst of the whirlwind's desolation. Yes, gentlemen, the poisonous darts of medical destruction have left me, like Logan, almost without a mourner; insomuch that, but for the hope of living to do something for the mitigation of the physical and moral evils that are spreading misery, desolation, and death through the world, like him, "I would not turn upon my heel to save my life."

Lastly—if you, or society in general, refuse to me any credit for my course, I here declare to you, that in obedience to the dying commands of a long and sorely afflicted victim of medical poisoning, who, of all others, was nearest to my heart, like Hannibal, I have sworn to "wage an uncompromising and eternal warfare against quackery, and every species of medical poisoning." This vow shall be performed while I have a voice to proclaim the truth, or a hand to guide the pen to leave a trace that once I lived!

III.—CAUSES OF COMPLAINT.

I have now presented, for your consideration, what I deem evidence abundantly sufficient to justify me in the course I have taken, in my medical career, against the pecuniary interests of the privileged order of physicians, and the prejudices of the large and respected portion of the community who believe in their "mysteries," and sustain their "proceedings."

I have already hinted, however, that I can not join the authors I have quoted, in their sweeping denunciations of all the labors of all their predecessors, as presenting "nothing, absolutely nothing, that is useful to the physician." In my opinion, it can not be, that a body of men so numerous, talented, learned, scientific, observing, and thinking, as they that have been denominated, *par excellence*, the medical profession, have labored incessantly,

four thousand years, to no purpose. No! they must have discovered "*something* useful to the physician." I go further, and express the opinion, that he must be a miserable philosopher, that can not derive *much valuable* instruction from the immense mass of facts *they* have accumulated, the countless experiments they have instituted, and the results of which they have so minutely recorded. I can clearly discern, amid the "confusion"—though I am free to confess that they are enveloped in much "rubbish"—both the corner-stones and the ornamental gems of medical science, which need only be extricated from the "chaos," carved and polished, and arranged according to their relative fitness, to constitute the firm foundation, and the brilliant decorations of the rich and beautiful temple of true medical science.

To make this declaration clear and conclusive, I proceed to point out some of the principal reasons, why the healing art has never yet derived much, if any, improvement from all the various labors which the faculty have bestowed upon it.

It must be self-evident, to every reflecting mind, that the science and art of healing involve several important, fundamental principles, which are so inseparably connected, and indispensably necessary to the ultimate perfection of the whole, that all must be included in every calculation respecting the final result of their combined operations, whether we understand their nature, character, and connections, or not.

To my mind, it is very clear that, to prevent disease, we must use, in a proper manner, the means that are calculated to oppose the introduction of its causes into the system, or expel them after they have entered. These means must be suited to the demands of the system, whether we know the nature and locality of those demands or not.

Now, it is evident, that if we knew ever so much about the cause, seat, and character of disease, and the nature of the vital operations, so as to perceive clearly the indications of cure, and yet knew no remedy suitable to these wants and indications, we should fail to cure, as certainly as if we knew "nothing, absolutely nothing," of the matter. Or, should we know the true remedies, and be ignorant of the quantity and application of them, we should fail in our efforts, to do all the good of which the means were capable, even if we did not do mischief.

But if, even by mere chance, if you please, we should use the right means, in the right manner, it is evident that their action would harmonize just as well with all the principles and indications, though we knew not one of them, as if we were acquainted with the whole. This is the reason why "empiricism often blunders into important cures, while the efforts of the regular physician have as often proved ineffectual," the latter having used improper articles, "under the guidance of false therapeutic principles."

It would appear, then, that the mere experimenter who confines his prescriptions to the use of a few good remedies, the action of which is uniform and well known, is far more successful than the fluctuating theorizer who is constantly changing his remedies to accommodate his favorite hypothesis.

But it is quite evident that he who understands all these matters, will be a better physician than either of the persons I have just characterized.

Suppose I were the speculator, and should not succeed in the result of my experiment, would it not be very unphilosophical in me to suppose that all my propositions were wrong, when an error in only one is sufficient to prevent the desired result? And would it also be wise to conclude that, because, in the other case, my remedies cured without my knowing "how

or why," therefore, the knowledge of the how and why, is not important in any case.

The great fault of physicians, in estimating the value of the labors of their predecessors, has ever been, that they either received or condemned, almost by wholesale, every previous system, *abandoning the truth* with the errors—casting away the *diamonds* with the “rubbish,” and subjecting themselves to the necessity of traveling over the whole ground again, with confidence still further and further impaired in their ability ever to arrive at simple truth.

Every reflecting man will agree with me, that the art of preventing and curing disease, the principles of which are called medical science, involves a greater or less degree of accurate knowledge of the following subjects:

1. The location, proportion, form, and structure of the several parts of the human body. This is called Anatomy.

2. The functions of those parts; that is, the offices they perform in a healthy state; in other words, the nature of healthy vital action. This is called Physiology.

3. The means by which any checks or destructions of those actions or functions may be effected, which means are the causes of disease; and also the results of the partial or total cessation of those actions, which results may be considered disease itself. To these, add the characteristics of the checked or deranged actions, or symptoms of disease, and we have what is usually included in the term Pathology, or, more properly, Physiology deranged.

4. The character of the actions necessary to restoration, and the identical articles and processes adapted to produce them; and this is styled *Diagnosis, Materia Medica, and Therapeutics.*

Let me repeat these propositions in a condensed form.

The true science and art of healing, involve some correct knowledge,

1. Of the organized body, (Anatomy.)

2. Of its various functions; that is, of the *modus operandi* of its motive power—or of vital action in a healthy state, (Physiology.)

3. Of obstructions to vital action, (or causes of disease,) and the consequences of their presence, (Disease.)

4. Of the means (*Materia Medica*) and the processes necessary to remove the obstructions, and restore or equalize the healthy action, (Therapeutics.)

I freely admit that, of these propositions, the last is far the most important; yet as all distinguished medical men have acknowledged that they are important and indispensable, (differences of opinion being, not whether this knowledge is power, but whether we actually have it, and in what it consists,) let us consider them as settled, and then apply them as tests by which to try all the principal systems of medicine that have appeared in the world.

It is proper to remark here, (and I wish it not to be forgotten,) that, “necessity being the mother of invention,” the knowledge of these subjects commenced, and, for a long time, progressed in the order directly reverse to that in which I have stated them. It follows, of course, that I must consider them in this latter order, as they rose successively, from remote ages down to the present day.

It was not Anatomy, Physiology, nor Pathology, but the discovery and use of something that would relieve present suffering, that first drew the attention of men to medicine as a profession. In the beginning of old time, they found themselves possessed of organized bodies, constructed in perfect accordance with their stations and relations; nor do I suppose they would have

suspected that an intimate knowledge of the internal structure of those bodies, could minister to any thing but mere curiosity, and intellectual and moral gratification, until they discovered that this beautiful and complicated machinery was out of order, and in eminent danger of destruction for want of something to restore its natural action. The first thing, then, was to discover and use, for the regulation of the system, that which would best promote its healthy operations. They saw themselves surrounded with innumerable objects, of many of which they were told they might freely eat, and which, of course, they regarded as food or something necessary to supply the wants of those organs during the whole course of their active state.

In process of time, however, it was discovered that some things did more harm than good to their bodies, deranging instead of promoting what they termed healthy action. These substances were justly considered injurious to the system, termed poisons, and carefully avoided, as enemies to health.

It was soon after discovered that some other substances possessed the power to restore a healthy action after it had been deranged. These were properly termed medicines. Their sensible qualities were minutely examined, and their effects upon the body were carefully recorded and remembered. Hyssop was early found to be an excellent remedy to purify the blood, ("Purge me with hyssop," said David, "and I shall be clean,") and "a lump of figs" was, as it still is, no less valuable to remove a boil. In short, though some of them proved injurious, yet it was soon found that, in general, "the leaves of the trees were appointed for the healing of the nations."

Among the earliest records of the rational use of substantial remedies, we find it admitted, as a general principle, that, to be justly entitled to the appellation of "medicine," an article should be capable, even when given in small quantities, of exciting and increasing the natural and healthy action of the physical organs, without either destroying or diminishing their power.

This principle, deduced from experience and observation, was then correct, has been ever since, and will ever continue to be so, though the whole world oppose it.

HIPPOCRATES, (Ob., B. C., 361,) the earliest systematic writer on medicine, whose works have been preserved to our time, discovered in the human body, by long and careful observation, "the existence of a principle" which he styled *nature*, to which he ascribed the superintendence and direction of all our corporeal actions and movements. To this principle he attributed a species of intelligence, and conceived that one of its most important offices is to attach to the body what is beneficial, and to reject from it what would prove injurious"—"an hypothesis," says Bostock, (Phys., page 2,) "which, although expressed in different ways, and clothed in a more or less mysterious form, has continued to be a popular doctrine to the present day." A truth, I affirm, which all experience has contributed to establish, and which no fact or solid argument that has ever been advanced can disprove. True, he did not know its ultimate essence, which he erroneously imagined to be *heat*; but he knew its existence, and distinguished many of its specific effects, as certainly as we distinguish those of gravitation and magnetism.

"He imagined disease," says the Edinburgh Practice, (vol. i, page 6,) "to be only a disturbance of the animal economy, with which [disturbance] nature was perpetually at variance, and [of which she was] using her utmost endeavors to expel the offending cause."

"In his treatment of disease," says Thacher, (page 4,) "he studied and copied nature with the greatest care and assiduity, as the only sure basis of medical science; and so extensive was his knowledge, and so accurate were

his observations, that he has been constantly held in veneration through succeeding generations."

His opinion was, that "Nature cures diseases," and, that all a physician should do, is to watch her operations and to second her intentions.

In this doctrine he was unquestionably right, notwithstanding Doctor Whiting's opinion, that he "knew nothing about disease." All the most experienced and judicious practitioners since his time, have arrived at the same abstract conclusions. Their only bone of contention has been, What are intentions? and with what means and in what manner shall we second them?

To this I reply, While Hippocrates adhered *in practice* to his correct principles, that Nature should be aided by means and processes which act in harmony with her intentions, his practice was universally successful. While he vomited his patients with vegetable emetics, cleansed the bowels with enemas, opened the surface with a warm bath, and promoted perspiration by a free use of the pure (not alcoholic) wines of Naxos, he was perfect master of even the terrible plague of Athens. "But," say his opponents, "he often failed in cases where it was reasonable to expect success." I answer, True; and the reason is, he sometimes, like our modern Paracelsians, began to fear that Nature had become delirous and was no longer capable of conducting her own operations; and, therefore, in his superior wisdom, he attempted to counteract or check her desperate efforts against disease. Yes; with the correct principle that remedies were to be innocuous, and act in harmony with vital operations, he even bled his patients, and gave opium and other poisons! and, therefore, as I have already said, however correct might have been his theory of what he ought to do, the bleedings and poisons acted just as they do in the hands of our modern Paracelsians. They opposed Nature until they drove her from her temple. Occasionally, too, he lost a patient through inefficiency in correct practice. But death can not be justly charged to the account of a practice which was not faithfully applied.

Because of these few, very few, failures in his practice, many successive leaders in medical improvement, as they called it, have rejected the fundamental doctrines of Hippocrates which were true; and not a few have built entire systems on the few and fatal errors he embraced, and put in practice but occasionally.

GALEN, the next writer worthy of notice in this slight sketch, (who died A. D. 201,) pretended to admire and defend the doctrines of Hippocrates; but he subdivided them into so many ramifications as to create much confusion, and introduced so many remedies into the practice, and put so many ingredients into the same compound, that he was often unable to discover, from the effects of their exhibition, what principles had been illustrated, or what remedy had proved good or bad. Hence, he often failed to cure; but still, as his medicines were mostly vegetable, and poisons were rejected so far as he knew them to be such, he was generally so successful, that even his power over disease "was ascribed to magic."

Here we see that Hippocrates and Galen seldom failed, except when they departed from established principles in the use of unknown agents which proved either useless or injurious.

Chemists and Mathematicians.—For fourteen hundred years after the death of Galen, very little change took place in either the theory or the practice of physic. It was enough to think and act as Galen thought and acted. In the

fifteenth century, arose contentions between physicians who were soon ranged into two sects, under the titles of Chemists and Mathematicians.

While both "fell into the error of ascribing the phenomena of life to the operations of the laws which influence inanimate matter," (Bostock,) "the chemists accounted for all the operations of the animal economy, by the chemical action of the components of the body upon each other; but the mathematicians" ascribed them to "the principles of mechanics." Bostock says, (Thys., page 5,) "It is not necessary in the present day, to enlarge upon the waste of genius and the misapplication of experimental research, which originated from this fatal error; it may be sufficient to remark that, although important facts were occasionally brought to light, and many elaborate investigations were instituted, from which some valuable information may be deduced, yet not one single hypothesis was proved nor principle established, of all those upon which so much labor and learning were bestowed."

It is surprising, indeed, to me, that men should ever have dreamed that either chemistry or mechanics could account for the origin, maturity, and operations of the organized body. Whoever knows anything about chemistry and mechanics (and who is there that does not know *something* about them?) may witness, every day, the fact that the most casual approximations of inorganized matter give rise to chemical decompositions and recompositions in great numbers and varieties, and to mechanical adhesions into masses of any and every shape; but who ever saw an organized body, animal or vegetable, constituted by either of these agencies, or where there was not reason to suspect the pre-existence of an organized body involving the vital power? What animal or plant was ever indebted to mere chance for its origin? It may be said, that like chemical changes will take place wherever the materials and circumstances are similar. I answer, The products are liable to varieties in size, quality, color, and properties, so great as entirely to destroy their identity; but if they were not, whoever expected to see chemical or mechanical changes bearing relations to each other of parent and child? What chemical or mechanical composition, either alone or united with its like, will ever beget its like, either without or with its own destruction? As soon would I expect to see an oak proceed from a pea, or an elephant from the egg of a sparrow.

Anima, vis vita, or life.—About the commencement of the last century, Stahl and Hoffman kindled into a flame the spark whose influence Hippocrates had felt among embers, and gave it the name of *Anima*. "Stahl," says Bostock, (page 61,) "was forcibly impressed with the indifference between the changes which the components of the body experience during life, and what would take place in the same substances under other circumstances. Hence, he concluded that, when they form a part of the living system, they must be possessed of some additional principle that counteracts the effects that would otherwise be produced. To the agent which thus opposes the physical powers of matter, and to which the body owes its vital properties, he gave the name of *Anima*." Dr. Bostock continues, (page 7,) "To Stahl, therefore, we must ascribe the merit of clearly perceiving the inadequacy of the actions of either chemical or mechanical causes, to explain the phenomena of life, a truth which we now regard as incontrovertible."

As to myself, I do not remember the day when I did not believe in the existence, in the animal body, of a vital power, producing phenomena very

different from the results of chemical or mechanical action; but I presume I learned it of my mother, if not from my own observations.

It must never be forgotten, that, while the learned were verging to something like a correct theory of vital action in a healthy body, they were departing farther and farther from the truth in two other points of paramount importance, namely :

1. They were settling in their minds the belief that, in every case of the encroachment of offending causes, this very vital power, so essential in health, in rising to expel them, becomes at once the very sum and essence of *disease*, and must be checked, subdued and destroyed at all hazards; but, finding none of the innocent and life-supporting remedies of Hippocrates, calculated to do this work in a direct manner, as the effect of their administration;

2. They gradually departed from the use of Nature's simple remedies (except now and then when little ails the patient, or as restoratives after they have reduced him as much as they dare,) and introduced into their therapeutics the processes of bleeding and blistering; the knife and the caustic; and, into their *Materia Medica*, the most deadly poisons contained in the three-fold kingdom of nature, whether derived at once from her laboratory, or detached from her compounds by the use of her powers, under the guidance of chemical science.

"In the beginning of the sixteenth century," says the Edinburgh Practice, (vol. i, page 46,) "the famous chemist, Paracelsus, introduced a new system into medicine, founded on the principles of *his art*." Hitherto, "the physicians rejected the use of opium, mercury, and other efficacious remedies." "Efficacious," indeed they have been ! as the ghosts of murdered millions could declare !

Here, it seems that, for the art of *aiding* nature in her efforts to remove disease, which had been practised with a tolerable degree of consistency and with astonishing success, by Hippocrates and Galen, was substituted the general use of poisons, which, however different in other respects, all agree in "suddenly and rapidly extinguishing a great proportion of the vitality of the system!" Oh, what a falling off was there!

From that day to this, it has been of little importance what theory has been broached; whether truth or falsehood has entered into, or mainly composed, the systems of medicine that have followed each other in rapid succession; whether life be an essential motive-power separate from the body, or the mere effect of organization; whether the causes of disease be one or many; whether disease originate in the fluids or the solids; whether chemistry or mechanics prevail; whether antiphlogistics or stimulation, ice, or the warm bath be advocated, an active or a mild treatment be recommended—like the waves of the ocean, each and every theory, in its turn, whether true or false, has been dashed and dispersed by the same Paracelsian rock.

Permutations in the extent of depletion, or the quantity of poison to be given, the particular articles containing it, the locality or the manner of the applications, the stage of the disease, or the hour of the day to be chosen for operation, have indeed been studied and tried, and "guessed about" *ad infinitum*, but still the chief practice consists in bleeding, cupping, leeching, blistering, burning, cutting, physicking, starving, and poisoning, in some shape or other, insomuch that old Time, long-ago, hung up his scythe as useless, and resigned his commission to the "regular medical faculty."—See Chart of Eberle, Criticisms, etc.

I am free to admit, that much useful information has been elicited within a half century, on the subjects of anatomy and physiology. I admire the

laborious researches, and rejoice at the important improvements of a Sardanapale, a Charles Bell, a Spurzheim, etc. But, when I turn my thoughts upon the untimely death of even a Godman, a Spurzheim, a Jackson, and hundreds and thousands of the most "gifted sons" of medicine, as well as of the other professions, my heart sickens at the mental vision, and I am ready to exclaim, as the wise man did of mirth, "What worth it?" And what advantage has the world gained of all the labors which the faculty have taken under the sun? Something whispers, "vanity of vanities, all is vanity!"

Still, with "the learned and eloquent Bostock," who, after having minutely surveyed the whole field of labor, and the fruits of the toil of all that had written before him, asks, (page 78,) "are we to conclude that all medical treatment is of no avail? That it is all imaginary or deceptive?" I must join in the answer, "I should feel most unwilling to be compelled to form such a conclusion; nor do I conceive that it necessarily follows from the premises."

No, gentlemen, I trust I shall be able to prove to you, in the course of my lectures, that the lamentation of Dr. Bostock is altogether unseasonable; that there is, not only in the arcane of Nature, but in the clear comprehension of men, a theory of medicine as true as the laws of mathematics, and a practice as consistent with it as geometry is with those laws; and that, much as the regular faculty have abused each other for not having discovered the whole science of medicine, and much as they have despised the results of their own labors, I shall show that they have furnished a vast amount of valuable facts for the use of the medical student, which wisdom can never despise.

In the light of those facts, I hope to be able to exhibit the true science of medicine, not merely in its application to the cure of disease, to which it has been too long and too closely confined, but also in its far more important bearings, the principles and practices by which disease may be always prevented. I do not, indeed, expect to prevail on men generally, to adopt the principles and practices I recommend; I know full well, that there are many, like the Cretans of old, "whose god is their belly," who, however well informed in the matter, will never exercise the self-denial that is absolutely necessary to the preservation of their health; but I do intend to present the subject so clearly before you, that, in the conclusion, I can say, with good old Joshua, "behold I have set good and evil, life and death before you; choose you which you will have," and that, if you refuse the good and choose the evil, suffer much sickness, and die prematurely, I can say, with a good conscience, I am clear of your blood.

THE ELEMENTS
OF
UNIVERSAL KNOWLEDGE:
THE MEANS OF ITS ATTAINMENT,
AND
THE POWER TO USE THOSE MEANS.

1.—The Simplicity of Nature.

Though, in a certain sense, what appears to the untutored mind is true, that we are surrounded by an illimitable number and variety of objects and operations, for our contemplation, use, abuse, or avoidance; yet an extensive, a thorough and discriminating observation will show us that all these objects are but so many different combinations or appearances, of a few distinct and peculiar simple substances; and that all the *inanimate* operations and changes observed among them, are but so many different effects of the actions, simple or combined, of a still smaller number of distinct, specific agents, or motive powers, with whose existence and properties we may easily and speedily become acquainted. Then we can readily reduce the principles derived from these elements of knowledge, to a few simple aphorisms, which, well learned and understood, in their capabilities of extensive application, will serve as sure guides to right conclusions, in our reasonings on all natural subjects.

2.—Matter.

Any thing and every thing that is capable, by the increase of its quantity, of being recognized by any one or more of our five senses, that is, any thing that we can touch, taste, smell, see, or hear; as metals, rocks, earth, water, air, vegetables, animals, is called **MATTER**. In short, all objects cognizable to sense, are *matter*.

3.—The Senses.

What we call the *five senses*, are our means of receiving impressions or ideas from contact with external objects. They are, in reality, merely five different organs for, and capabilities of, receiving *one impression*, namely, that of feeling, or touch, from different kinds or presentations of matter. When substances come in contact with our fingers, or any part of our external surface, we say we touch or feel them. If applied to our tongues, we taste them; if to our noses, we smell them; if waves of atmospheric air strike the

drum of our ears, we hear them; if light strikes the retina of our eyes, we see it. Yet, all these modes of recognizing matter, are but simple *contact*, or touch.

4.—Simple Substances.

There are now known to chemists and philosophers, about sixty-six different substances, called specific elements, not because they are known to be ultimate, but because they have not yet been decomposed by art, nor known to be separated by the nicer processes of nature. Of these substances, about thirty are so rare that little is known of their properties and uses. The following are worthy of consideration. They are ranged in the order of their specific gravities; the gases are compared with atmospheric air, the rest with distilled spring, or boiled rain water:

Name.	Symbol.	Specific Gravity.	Equiv.	Name.	Symbol.	Specific Gravity.	Equiv.
Hydrogen,	H.,	.0688	1.	Chromium,	Cr.,	5.09	26.7
Nitrogen,	N.,	.976	14.	Antimony,	Sb.,	6.7	129.
Oxygen,	O.,	1.26	8.	Zinc,	Zn.,	7.	33.
Fluorine,	F.,	1.28	19.	Tin,	Sn.,	7.2	58.
Boron,	Bo.,	1.48	11.	Ferrum,	Fe.,	7.79	28.
Phosphorus,	P.,	1.77	32.	Cobalt,	Co.,	7.8	30.
Sulphur,	S.,	2.	16.	Manganese,	Mn.,	8.	28.
Aluminum,	Al.,	2.6	13.9	Nickel,	Ni.,	8.5	29.6
Bromium,	Br.,	2.97	80.	Copper,	Cu.,	8.87	32.
Magnesium,	Mg.,	3.	12.	Bismuth,	Bi.,	9.8	213.
Calcium,	Ca.,	3.1	20.	Silver,	Ag.,	10.47	108.
Strontium,	Sr.,	3.8	44.	Lead,	Pl.,	11.85	104.
Carbon,	C.,	4.	6.	Mercury,	Hg.,	13.6	100.
Barium,	Ba.,	4.44	68.5	Gold,	Au.,	19.3	98.
Silicon,	Si.,	4.5	22.	Platinum,	Pt.,	21.1	99.
Iodine,	I.,	4.97	127.	Iridium,	Ir.,	21.8	98.68
Arsenic,	As.,	5.85	38.				

Remark.—Many philosophers think that, in the processes of nature, all these are produced from various combinations of, some say two or three substances, and others think them but the different aspects of only one, and that one, light. I take them as I find them at present, because little or nothing would be gained to the science of medicine, by decomposing them to the *ne plus ultra*, the utmost possible extent. All our knowledge of agents injurious to the human system, must be learned by experience in the use of them in their natural state; any chemical change alters their properties and uses. Still, we can not but smile at the assertion, that the minerals and metals of the earth, the water, the air, and vegetable and animal matter, are all but different aspects and aggressions (combinations is absurd) of a single ray of light! *Credat qui vult.*

5.—Atoms.

The smallest portion that exists of any substance, that which is indivisible by the most subtle and active powers of nature's ample laboratory, is called an *atom*. Thus, when lead, iron, silver, or gold is heated, the caloric gets between these smallest subdivisions, or atoms, and separates them until they no longer touch each other, when they float about freely, and gravitate in harmony with the earth's horizon, that is, they form a level surface.

Elements.—The ingredients of any compound, whether of simple substances, as iron or lead, or of combinations of different substances, as sulphate of iron, carbonate of lead, etc., are called elements of that compound. Thus sulphuric acid and oxide of iron are the elements of copperas; but the atoms of copperas, are sulphur, oxygen, and iron. All atoms may be elements of compounds, but all elements of compounds are not necessarily atoms of matter.

6.—Properties or Qualities of Matter; or, Its Capabilities of Use.

Whatever always exists in connection with matter, but has no existence without it, is called a property of matter. Thus, we observe, that iron possesses malleability, durability, flexibility, fusibility, specific gravity, etc. Antimony and zinc, possess brittleness, poisonous qualities, etc. Air possesses elasticity, contractibility, expansibility, etc. All material substances, possess form, extension, divisibility, and specific gravity, and each and every one of these qualities is a capability of being applied to some use or end. But none of these qualities exist, independent of matter. Hence, they are not matter, but simply properties or qualities of matter, which enable us to discover the substances themselves, to distinguish between one specific substance and another; and to choose for our own use, that which is best suited to our purposes.

7.—Evidences of the Existence of Matter.

From the definition of matter, it is justly inferred that the evidence of its existence, is its recognition by one or more of the five senses. It is, in all its forms, "an object of sense," that is, it may be touched, tasted, felt, smelled, seen, or heard, when present in quantities, sufficient to effect these senses.

But how do we know all these things? Not by bringing their ultimate essences in contact with our senses, but by the effects produced by the accumulation of their atoms, or the action of those atoms on matter; or, by chemical decomposition, or by applying to them the laws of refraction, or by mere abstract reasoning on the necessities of the case. Thus, we distil the purest spring water, and materials remain which we could not taste in the water, and we affirm, that this is evidence amply sufficient to prove that they were there. We know that a disease of the same character is produced in all the path of a vein of wind, and we affirm that a specific virus was wasted in the gale, though detected by none of our senses. We see no animalcule in water, but, by the aid of refracting glasses, we raise an image, or a shadow, on which we gaze, and we safely affirm the existence of a *fac-simile* in a material, organized, and living being. Here, then, it is proved beyond dispute, that though they are capable of being so increased as to be recognized by the sense, yet, we have no evidence of the existence of some forms of elementary matter, but the effects produced on them by chemical, mechanical, or vital power, or by them on other materials or powers; yet no man denies the existence of intangible atomic matter. Mark this, and do not forget it.

8.—The Specific Differences Between Different Materials.

Here, again, we know that men can easily distinguish between gold and copper, silver and platinum, zinc and tin, oxygen and hydrogen, oil and sugar, beef and cabbages, etc. But how is it done? Is it by the perception of any essential difference between the atoms of those substances which can

be detected by the senses? By no means. The senses may, indeed, in time, be taught to distinguish very accurately between copper and gold, zinc and silver; but, as far more accurate and satisfactory evidences, do we not rather distinguish the metals by their specific gravity, malleability, fusibility, etc., the gases by their specific gravity and combustion or non-combustion, support or destruction of life, etc.?

Do we rely on the senses to inform us that oil, alcohol, and sugar, consist chiefly of carbon, oxygen and hydrogen, and that beef and cabbages are made of the same with a portion of nitrogen? Surely not; yet we affirm these things as facts clearly demonstrated, by inferences from chemical experiments, as was the very existence of the elementary atoms. From the effects of chemical operations, inferences are drawn of the existence of adequate causes, and the knowledge thus obtained is as certain as any knowledge that we possess.

In fact, the evidence of the senses is admitted to be wrong, and is corrected by reasonings on the relations of cause and effect, even in cases where they have full and unobstructed action. See that draftsman; does he conclude that the most distant pillar of yonder dome is shorter than the nethermost, because the eye thus decides the question? No; he corrects the error of sense by his reasonings and calculations on the *effects* produced by different distances, as procuring causes. See that warrior; he trembles at the flash of the distant canon, but fears not, after he hears the sound, that the ball will hurt him. Why this sudden fear and speedy security? Because he has learned, by the observation of cause and effect, the difference between the velocities of light, bullets, and sound.

Hence, it appears that the specific distinctions among material substances, as well as the very existence of those substances, are not always cognizable directly by the senses; but often secondarily, through the medium of comparisons with each other, or the effects of the action of different motive powers on this substance. *Mark this, also.*

But the senses are not so impressible as to detect all the ultimate atoms of all the elements of matter, or even all its organic systems, as we find them in Nature. For example, our sense of taste can not detect all the substances in solution in the water we drink, which may contain simple substances, acids, alkalis, and even animalcule; our fingers can not feel the fine atoms of substances in the air, or the water; we can not hear the sounds produced by a slight breeze, that is, we cannot *feel* with our *ears*, the momentum produced by so slight a motion; we can not, by any of our senses, detect the substances constituting epidemic viri, as of small pox; we can not see the minute animalculæ in a drop of stagnant water, in the quantities in which it usually contains them; yet no one doubts that the most of the water we drink, contains substances in solution; that the slightest motion of the air produces a momentum or sound; that there are often, in the atmosphere, material causes of disease; and that animalcule, innumerable, often inhabit a single drop of water.

9.—Motive Powers Suggested.

Besides the mere existence of the various substances which we call matter, we see them often in motion. Some are falling to the earth; as rain, hail, or snow; some moving along on it, as the water, and some over it, as the needle points to the pole. Then there are constantly going on, chemical or atomic changes, as the formation of oxides, acids, salts and crystals; and in some organic bodies, actions. There is, also, fermentation in some organic bodies,

and putrefaction, in others. We can not detect, by the use of any of our senses, the essential causes of these motions or changes; but we know that such motions can not be performed without causes; and, as all the simple elements, when alone, are inclined to rest, we are assured that these causes are motive, and must exist independently of the objects which they move. Hence we define them as motive powers. Thus:

10.—Definition of Motive Powers.

Whatever can not, by any increase of its quantity, be rendered cognizable to any one of the senses, but is known to exist by its action or effects upon matter, is called a *motive power*. We recognize, in the lower or inanimate world, six of these.

11.—Gravitation.

We observe that *all* substances, when set free from surrounding pressure or attraction, have a tendency to fall together without producing any changes in their character or constitution. The power that causes this tendency, we call gravity, or gravitation.

12.—Chemical Affinity.

We see further that, when certain substances are brought into close contact, as soda and tartaric acid, as sulphuric acid, metals, and water; or as vinegar and potash, motions and interrelative changes of atoms immediately commence. Destructions of some compounds, and the formation of others of a homogeneous character, each element bearing a definite proportion to every other, are produced. The cause of these motions and effects, acting differently from gravitation, and producing different results, we call *chemical affinity*.

13.—Magnetism.

Differently from any of the effects thus far considered, we find a certain compound of iron, so affected as to give it polarity; that is, to direct a bar of it, freely balanced, on a pivot under its middle, in a line nearly correspondent with a meridian of the earth. The power that produces this attraction, does not, like the gravitating force, attract all bodies; nor, like the chemical, attract elements into compounds, and in definite proportions. It acts on only one body—iron; and to only one end—polarity. Thus ascertained to be distinct from all others, we call this power **MAGNETISM**.

These three motive powers, the gravitating force, chemical affinity, and magnetism, are evidently simple and *attractive*, though specifically distinct in the modes and effects of their attractions. They attract in different ways, and produce different results, even when they act on the same substance. Thus the gravitating force draws iron into masses, and fastens it to the earth; the chemical force attracts it to oxygen, and forms an oxide; the magnetic force gives it polarity. Hence, they must be powers, or forces, different and distinct from each other. These three forces, always tending to draw substances toward each other, we call *attractive forces*.

14.—Caloric.

But again, we see matter frequently tending to diffusion. Thus, air expands, water evaporates, the metals become fluid, etc. This action, being directly opposed to the former, and yet taking place among and upon the same substances, we infer that it must be produced by a power directly the

reverse of the attractive forces. We recognize it as a diffusive force, and name it *caloric*.

15.—Electricity.

So also, we observe that, by means of some other power, the very elementary atoms of substances, as the oxygen and hydrogen that compose water, are separated from each other, instead, as in the last case, of being merely diffused into vapor, without decomposition. We find it also breaking up the equilibrium of the globules of cloud-vapor, driving them into masses, and thus giving to the gravitating force the power to bring them down in showers of rain. Like caloric, it diffuses itself; but, unlike caloric, it diffuses itself through the elements of only certain substances, as the metals, water, etc.; others, as glass, wax, gums, dry wood, etc., it will not penetrate. This power we call *electricity*.

16.—Light.

Finally, in the inorganic world, we discover, by the degree of its velocity, by its impression on the retina of our eyes, rendering external objects visible, the existence of another power, which we call *light*.

17.—Compound Powers.

From the fact that caloric expands metals, etc., electricity splits trees, and makes holes in the earth; and that light gravitates, as well as impresses the retina; we infer that these three diffusive powers are either themselves material, or that they have always, in an inseparable connection with them, some material essence or entity too subtle to be detected by the senses.

18.—Generic Character of the Motive Powers.

The first three motive powers attract together the elements of substances, and form masses or compounds; the last three *separate* the atoms or elements, and distribute or decompose them. The counteraction, one against another, of these six powers, produces all the changes we observe in the inorganic world; that is, all below the vegetable forms.

19.—Properties of the Motive Powers.

As material substances have specific gravity, extension, divisibility, form, hardness or softness, impenetrability or compressibility, elasticity or brittleness; fusibility or infusibility, color, and all their other fitnesses for various uses, as their nutritive or their poisonous qualities, etc., which are called their properties, so the motive powers have direction, velocity, manner, and effects or results of their action, which are called their properties; which may be thus defined:

Whatever circumstance always exists in connection with the motive powers, but has no existence without them, is called a property of those powers.

Matter has qualities or capabilities of use; motive powers develop those qualities, and apply the substances to their proper uses.

20.—Matter and Motive Powers.

Matter and motive powers constitute the sum total of creation. The knowledge of these, and their properties and relations, tends, in the highest degree, to promote our comfort and happiness, while ignorance of them subjects us, at every moment, to the imminent peril of our health and happiness, and even life itself.

Remarks.—As the above are the elements of knowledge, so they are the basis and dictators of LANGUAGE. Language or speech, is the means by which one person conveys to another the impressions on his own mind, made by the contemplation of the material substances and their properties, and the motive powers and their properties and actions, and the results of those actions.

It is correct, or incorrect, in exact proportion to the faithfulness with which it serves this end ; perspicuous, in proportion to its clearness ; concise, in proportion to its freeness from useless verbiage ; beautiful, in proportion to the pleasing character of its illustrations ; rich, in proportion to the number of these illustrations in a given paragraph, and its ability to present them in a variety of forms ; sublime, in proportion to its exhibitions of the grandeurs of nature ; simple, according to its ability to do all this to the easy comprehension of children and uninformed adults. The surest way to speak well, is to observe and think well.

As language is but the vehicle of thought, it should be the great aim of all teachers of it, to present first the objects of the thought, and then the vehicle ; as we first present a burden, and then a carriage to transport it; the very reverse of too much of the teaching of this age. Instead of being anything in itself, language is a mere representation of the things and actions of nature. Language is to knowledge, science, art, what a handle is to a vessel, or a label to a bottle, or a specimen of nature or of art.

Using in relation to one subject the language proper only to a different one, is like making coffee in a wash-boiler, and cooking potatoes in a tea-pot ; or like putting a hammer-handle into a hoe, or an ax ; and the hoe or ax-handle into a hammer. The use of language is to represent the things intended ; therefore, I repeat it, the true way to teach language, is to teach first the object to be represented, and, by this time, the language will have nearly "taught itself."

Matter and motive powers are philosophy represented in language by nouns ; the being, action, passion, or possession by verbs ; the properties of matter are represented chiefly by adjectives ; those of the motive powers by adverbs ; pronouns are servants or substitutes of nouns ; and participles take the double liberty and responsibility of representing verbs and nouns, or verbs and adjectives. The relations and connections of all to each other are exhibited by prepositions and conjunctions or disjunctions, (the phrase, "disjunctive conjunction," is an absurdity) ; and the interjections express our surprise, wonder, astonishment ; fear, honor, distraction ; admiration, delight, gratitude, etc., at the recognition, contemplation, and enjoyment, of all these infinitely various, yet sublimely and beautifully harmonious *arrangements* and *uses* of nature.

21.—Grounds of Faith.

Most men are willing to admit the existence of matter ; but many refuse credence to that of the motive powers. Yet a careful and candid reflection on the subject will show that, though the motive powers are detected secondarily, by the action of reason, yet reason builds all her conclusions on what she observes in the objects of sense. She must see, hear, or feel, etc., an object of sense in motion, before she can recognize the existence of a power to put it in motion ; but, when she has once seen this object in motion, she can no longer doubt that some unseen power put it in motion. We can no more doubt that some power causes water to flow, rain to fall, crystals to form, the magnetic needle to point to the pole, the vapors to rise up,

volcanoes to break forth, the light stream after electricity to appear, and the darkness of the night to vanish, than we can that these things themselves exist.

23.—Grounds of Error.

Some persons can not admit the existence of the motive powers, because they have imbibed the idea that whatever exists is material, and that what is not material is, of course, non-existent. They say, properly, that "nothing can not do something. The motive powers *do* something, therefore they *are* something, therefore they are material." This false conception, and this bad logic, arise from their erroneous ideas of the meaning of the word. The term material means cognizable to sense, *im* means *not*; therefore, immaterial means not cognizable to sense. It does not mean non-existent. Not only the six inorganic powers, but the vital forces of plants, animals, and men, are *something*, but as they do not answer the description of matter, they are *im*, that is, not material.

3.—The Evidences of the Existence of Motive Powers—Gravitation.

We have no sense by which we can recognize the existence, by itself, of the motive power gravitation, however much it may be accumulated in quantity. But we observe that the particles of matter are held together, both in small masses and in hills and mountains, and that these are attracted to each other and to the earth, and we reason and conclude that some power holds them together. We further observe that distant bodies are attracted to the earth, and all the planets to the sun. This latter could not be so, if attraction were, as some pretend, a mere property of matter, existing where matter is and having no existence without it. The fact, therefore, that bodies at a distance are attracted toward each other, is proof that the attractive power exists in all the space between them. The fact, also, that bodies, in falling to the earth, are influenced by a superior force, as they more nearly approach to it, is proof that the radii of that force, constantly interrupted by the falling body as it approaches their center, have existence where no such body is. If it be proved that atoms of matter exist, by the inference drawn from the fact that a certain accumulation of those atoms is cognizable to the senses, it is equally proved that a motive essence or power exists as a cause of the motion, which, by the same senses, we discover in matter. The sensible effect proves the insensible cause in the one case as clearly as in the other.

24.—Chemical Affinity—How Detected.

We know that each and every simple element of matter is averse to all change. But still we observe, on bringing many of these elements together, as oxygen to nitrogen, mercury to gold, acids to alkalis, etc., a constant tendency to a change of atomic relations. Instead of adhering together, side by side, as the gravitating power would require, there is a constant interchange of atoms, one of each, for one or more of the other, until every portion of the one contains the same proportion of the others. These are effects. Do they exist without a cause? If so, any other effect *may* exist without a cause, a mass of gold may exist without an atom, and silver and platinum may be the same metal, though their specific gravity and fusibility differ very widely. But to admit one motion and its effects, without a cause, would set reason and common sense afloat on a shoreless, but rocky ocean, without a rudder or a compass. It would nullify the best philosophy. If the cause of these chemical motions and effects were material, then the matter

which produces them, might be accumulated in quantity, until, like other matter, it would become cognizable to one or more of the senses, independently of any other matter. But it is never so recognized. If it were a *mere* property of matter, it would have no power to decompose it, for length, breadth, divisibility, ductility, elasticity, etc., do not decompose matter. It is, therefore, neither matter nor a property of a matter, but a motive power, and, as its operations and effects on the same substances, under the same circumstances, differ from those of gravitation, we call it *chemical affinity*.

25.—Magnetism—How Detected.

Under certain peculiar circumstances, we observe that a bar of iron balanced horizontally, on a pivot under its center, points nearly in the direction of the meridians of the earth, and that this motion may be deranged by presenting to either end another bar of the same metal, affected by the same power. As we can not perceive that these effects occur without a cause, and as none of the other powers will produce them under the same circumstances, we conclude that the power which produces them, is different from the others, and we call it *magnetism*. All these forces, producing their effects by attracting substances to each other, we call them *attractile forces*.

26.—Caloric—How Detected.

When certain substances are brought into contact with each other, as a bar of iron in a trough of boiling water, or a lump of ice in a warm room, we perceive that something commences immediately to extend the dimensions of that iron, and to melt the ice, that is, to so separate the atoms of which these substances are composed as to enlarge their volume. That same power, does, to some extent, the same thing to *every other substance*. This effect being different from that produced by any of the preceding powers, we conclude that the power that produced it must be different, and we call it *caloric*.

27.—Electricity—How Detected.

Again, we find produced by the instantaneous action of some intangible power, *per se*, effects, in some respects different from those of caloric, for it does not expand nor penetrate the metals, nor will it penetrate glass, nor even common wax. Unlike caloric, it makes selections among the substances on which it manifests its presence. These, and many other facts concerning its action, prove it to be a motive power, and also distinguish it from the other powers enumerated, and we call it *electricity*, because it was first discovered acting in the substance called electron or amber.

28.—Light—How Detected.

Lastly, in the inorganic world, we feel, in our eyes, in the morning, the influence of a motive power that enables us to see the objects and operations around us. We also see its influence in changing the appearance of other bodies, as the rendering of water and glass transparent, the changing of many vegetable substances from white to green, and from green to yellow, etc. Like the two preceding, it is diffusive from a center, but, unlike them, it passes only in straight lines, and does not extend or enlarge the objects which

it penetrates, nor will it penetrate many of those which the others will. Unlike caloric and electricity, it will not penetrate the metals, and unlike electricity, it will penetrate glass and crystals. This motive power we call *light*.

29.—The Cause of Motion in Inorganic Bodies.

To the antagonistic actions of the above six motive powers, gravitation, chemical affinity and magnetism, as attractive; and caloric, electricity, and light, as diffusive, and to the different degrees of their affinity for different substances, must be ascribed all the motions we observe in the inorganic world.

30.—Specific Characters or Properties.

It is by a comparison of their properties, chiefly, that we distinguish one material substance or one motive power from another. Thus, the different species of matter are found to possess different degrees of specific gravity. Some are fusible and some are not. The fusible melt at different degrees of caloric. Some of the infusibles sublime, others do not. Some substances are ductile or malleable, and others are not; some are transparent, others opaque; some are brittle, others supple, others elastic; some are capable of uniting with one substance, and some with another; some with few, some with many substances. All these capabilities of use are called their *properties*, and by these, and others similar, we distinguish them. So

31.—The Properties of the Motive Powers.

Are their *modes of action*, as seen by the results produced, distinguish the motive powers. Thus, *gravitation attracts* into masses, all bodies, simple or compound, according to the specific gravity of each, without regard to the material of which they are composed. *Chemical affinity* attracts only certain selected bodies, atom to atom, without regard to specific gravity; while *magnetism* attracts only certain bodies, without regard to their atomic proportions or relations, and gives them polarity.

Caloric diffuses, or decomposes, and separates the elements of all bodies. *Electricity* does the same to those of only a select number of *bodies*, and *light* makes objects manifest to the eye, and separates, decomposes, and diffuses the atoms or elements of many bodies not so affected by the other powers. These, and other peculiar modes of actions of these powers, are properly termed the *properties* of these powers.

32.—Definition of Motive Powers.

Like the properties of matter, so the properties of motive powers are certain circumstances and capabilities of use, connected with and inseparable from these powers, but which could have no existence without them; as the direction, the extent, and the ratio of gravitation; the elections of chemical affinity and the proportions in which it unites the subjects of its choice; the election of its subject, and the polar tendency of magnetism; the diffusibility of caloric, the extent and character of its operations; the affinities of electricity for special substances, called conductors or non-electrics; and its rejection of others, as wax, etc., which caloric most readily penetrates; and the tendency of light to diffuse itself only in straight lines through the same medium, etc. To be more particular,

33.—The Gravitating Force

Acts at great distances and short ones, upon all bodies, and with a power exactly proportionate to the quantum of matter in each ; and the center of motion is always in the center of balance between the bodies attracted. Thus, the center of motion between the sun and the earth, is about one millionth of the distance from the center of the sun to that of the earth ; and that of the earth and the moon, is about one fiftieth of the distance from the center of the earth to that of the moon; because the sun is about a million of times as heavy as the earth, and the earth about fifty times as heavy as the moon.

34.—Chemical Affinity

Acts at short distances if at all beyond actual contact, makes selection among the different objects it attracts, utterly rejecting some, and holding others with tremendous power, and all this without any known regard to the weight of the matter they contain, though it always unites their atoms in certain definite and multiple proportions. It also attracts substances in such directions, and arranges them in such order, as to produce certain specific and definite forms, called crystals.

35.—The Magnetic Force

Acts on but one body, iron, not as gravitation, to hold all its parts with equal force to each other, or to another body, nor as chemical affinity to cause it to unite, atom to atom, to other substances ; but to direct its extremities in harmony with the polar meridian, or other similar substances applied to it, or contained in the earth.

36.—Caloric

Enters into all bodies without exception, separates more or less their atoms, or their proximate elements, and sometimes entirely decomposes them. By these capabilities of action and results, and by its gravitation and its momentum or influence on our senses, we should suppose it to be a material substance ; while, by its constant movement of other bodies, and its ceaseless efforts to preserve its equilibrium, we recognize it as a motive power. It may be an inseparable compound of a substance and a motor; but, since we can recognize and use it only as a motor of other things, and not as a substance, *per se*, we rank it with the motive powers. This last remark is equally applicable to electricity and light. All these three powers make manifest to some of our senses, sight, or feeling, or both, the objects on which they are concentrated.

37.—Electricity—How it Acts.

The fact that this essence is every where present, and constantly in motion, and keeping other materials in motion, is proof ample that it is a motive power ; its severing wood and other non-conducting substances, and setting them on fire by its friction, prove it a material substance, while its impatience of restraint, and violence of reaction after confinement, its choice of objects on which it operates, as the metals, and its rejection of wax, dry wood, resin, etc., on which caloric delights to revel, and its production of heat in no other way than by friction, distinguish it from caloric. I am aware that M. Ampere and his followers in Europe, and Prof. Locke and his in America, suppose that they have demonstrated the identity of electricity and magnetism. I do

not venture to say they are not the same, but the evidences to prove it adduced by those philosophers, are not sufficient to settle the point in my mind. The argument that each may be rendered manifest by the operation of the instruments and agencies prepared to excite the other, may prove nothing more than that both may be excited by friction, and that the friction produced by either, is sufficient to excite the other. The fact that, when opposed to each other, as when electricity changes the poles of the magnet, the stronger prevails over the weaker and counteracts its tendencies, and when united as in making a magnet with electricity, the combined power is far greater than either of the simples, is a much stronger proof that they are different powers that may or may not harmonize in the production of the same results, than that they are identical, and their different effects the results merely of their different modes of action. But I am willing that enlightened experience should decide on their identity if it can. One thing is certain ; they are both motive powers, and, while magnetism, as such, exhibits none of the properties of matter, electricity, as such, exhibits many of them.

38.—Light,

Like caloric and electricity, is a diffusive power. It strikes objects with a degree of momentum, and is influenced by the force of gravity. But, unlike them, it diffuses itself only in straight lines, direct or reflected, and never separates substances mechanically. When a quantity of its rays are caused to pass through a medium of different degrees of density, as the course of a triangular prism, they are all bent, and it is seen that some are more refrangible than others, and that the different rays possess, different properties, as they reflect different colors to the eye, and produce different chemical effects on other objects. Light is not, of itself, visible nor tangible ; but it renders material objects visible. The calorific ray found in company with light, is no part of light itself, but simply caloric disengaged by the motion of light, from the medium through which it passes. The same is true of the electric, the magnetic, and the chemical powers that are discovered on the spectrum. They are no part of the motive power called light, (as all see the latter in phosphorescent wood, where these can not be detected), but simply independent motive powers, rendered manifest by the disturbing motion of a ray of light.

The motive powers, then, are distinguished by their different kinds and degrees of action on the same materials, under the same circumstances, and it is this difference that constitutes the basis of all changes in the universe. One motive power acts until a superior comes along and overcomes its action. This latter acts strongly at first, in most cases gradually diminishing, by a law of its nature, until it falls under the dominion of some other power, when another change takes place, and so on, *ad infinitum* ; for, the tendency of all present combinations of matter is ultimately to destruction, yet the day will come "When though the heavens shall be rolled together like a scroll, and the elements shall melt with fervent heat, and the first heavens, and the first earth shall pass away;" yet, "a new heaven and a new earth shall be formed," "in which shall dwell righteousness," and which shall continue forever. Yes, and our own motive powers, too, shall be united with new bodies which shall never more know change.

39.—Caloric,

Electricity, and light, though they agree in the property of diffusibility, and in obedience to the law of diminution in quantity and force as the square of

the distance from the point of departure, yet differ so widely in their other actions and effects, as to render it absurd to consider them, as some do, the same power. Some philosophers consider light as a mere compound of caloric, electricity, magnetism, gravitation, and chemical affinity. But the simple fact that light continues through a room in parallel lines, as it enters by a hole in a window shutter, while all the other powers named will diffuse themselves irregularly all over the room, is a sufficient refutation of that doctrine. It is true that the rapid passage of a ray of light through the atmosphere, sets free latent caloric, electricity, magnetism, and chemical affinity, which arrange themselves in different portions of the spectrum, if refracted by a prism; but that fact, so far from proving them all identical, demonstrates their specific individuality.

The perpetual warfare between these *diffusive* and compound powers, caloric, electricity, and light, and the attractive or concentrating powers, gravity, chemical affinity, and magnetism, produces all the changes which we see in the inorganic world; that is, in every thing that is not endowed with living principles. It seems, then, that while we learn the existence of motive powers by their actions on matter, we learn their specific identity by the modes of their actions and the results produced; all which are as clearly appreciable to our reason, as matter and its properties are to our senses.

40.—Life, or the Vital Force.

As we look further into the operations of nature, we observe that, out of the same materials of which gravitation forms irregular masses, and chemical affinity constructs only lifeless, though peculiar and regular compounds, there arise organized and living bodies, as vegetables and animals, at the head of which man himself appears pre-eminent. As we observe that these structures are reared and sustained in opposition to, and above, all the forces hitherto described as producing all the changes in mere lifeless matter, we necessarily infer that the powers which produce them must be generically distinct from those which produce irregular masses and crystals, and, therefore, to the powers which agree in producing organized or living forms, we give the name of vital forces, or the principles of life. These forces are all attractive. They make a selection among the objects of sense, of substances suited to their purposes, but they never, like gravitation, conglomerate them into confused masses, nor, like chemical affinity, arrange them into crystals, nor unite them in known definite proportions, nor, like magnetism, give them polarity; on the contrary, they construct what are called organizations—bodies or machinery peculiar to their capacities and powers, and then, instead of remaining quiet in those bodies, they keep them constantly in motion.

Bodies that acquire their magnitudes merely by accessions to their external surfaces, and possess no power of external nor internal motion, are called *inorganic*; those that commence with a determinate character in miniature and acquire their magnitude by accessions of material, through the medium of fluid circulation to each and every portion of the mass, and possess the power, in vegetables of internal, and in animals of both internal and external motion, are called *organic*.

Again, as we see that specifically different organic forms are made of the same elementary materials, we are driven to the necessity of inferring that these materials are attracted into those forms by specific motive powers; and that, of course, there are as many specifically distinct life-powers as there are distinct species of vegetables and animals on the globe.

41.—The Relations of Things to each Other.

As we scrutinize still further the operations of the inorganic powers, and the tendency of their forms, (those they construct), we find that they are all designed to be, in some way, subservient to the higher order of beings, as vegetables, the unintelligent animals, and, finally, to man, whom, if controlled by him, they benefit in ways innumerable; but whom, if uncontrolled, they injure and destroy. Thus, when he controls the gravitating force, he makes it move clocks, saw-mills, and factories, drive spiles into the ground, etc.; but if the rocks fall on him, they kill him; or the waters sweep over his levees, they destroy his property. If the chemical power be under his guidance, it enables him to detect the composition and character of substances, to carry out many of the purposes of art, such as bleaching, coloring, etc., and to make innumerable compounds very useful to him; but if it gets the control of him, it may corrode his flesh, or putrefy it, and destroy his life. If caloric be under proper management, its services to man are inestimable; but, when it gains the advantage, its mastery is terrible. Electricity, directed by intelligence, has become one of the most useful servants to man, as in the electric telegraph. And so of material substances. Some of them are nourishing to our bodies as food; some are useful as medicines, but others are injurious or destructive as poisons.

The science that involves the formation, support, and destruction of living bodies, is called *organic chemistry*.

42.—Inorganic Compounds.

In the inorganic world, we have seen that the elements combine, atomically, with each other, in definite proportions, and that the binary compounds, oxydes, alkalis, and acids thus formed, are combined again to make tertiary compounds, by an affinity so much weaker than that which holds together the binary, that we have little difficulty in reducing them back again in the precise order in which they are formed, and ascertaining their proximate elements, as well as their ultimate. But it is not so in the organic world.

43.—Organic Compounds.

"The *organic* compounds, which constitute the great mass of plants and animals, *differ from the inorganic*—

"1st. In the smaller number of elements in the organic.

"2nd. In the complicated atomic proportions in which these few elements unite.

"3rd. In the impossibility of producing organic matter directly from its elements, since the co-operation of *vitality* is indispensable to its formation."—Lowig's Principles of Organic and Physiological Chemistry, p. 33.

44.—The Essential Elements of Plants.

The essential elements of the great mass of plants and animals are carbon, oxygen, hydrogen, and nitrogen. "Carbon is found in all organic combinations; in some, with oxygen or hydrogen; in others, with oxygen and hydrogen, and in others, with oxygen, hydrogen, and nitrogen."

Some other substances, as, phosphorus, sulphur, and lime, are also constituent of some organic bodies. Others are found to contain sundry mineral elements; but these are not all essential to the organizations.

"Numerous and diversified as are the forms and properties of vegetable substances, and complex, as is, in general, their composition, they are, nevertheless, made up of a very few of the so-called elements of the material world. A vast number of organic substances consist of but three of these elements, *carbon*, *hydrogen* and *oxygen*; and very many contain only two, *carbon* and *hydrogen*. There is, again, a very large class of organic bodies into the composition of which nitrogen enters in conjunction with carbon, hydrogen, and oxygen, and there are a few to which, together with these four principles, *sulphur*, *phosphorus*, *iron*, *manganese*, [lime], and a few other elements appear to be essential. Thus, of the sixty-six substances at present recognized by chemists as simple, not more than ten or a dozen are found in the organic world. It is true that organic substances may contain other bodies; but such are of artificial [accidental or circumstantial] production, and do not, therefore, militate against the fact that we have just stated, namely: that by far the greater number of that almost bewildering variety of substances, which we meet with as the products of vegetable and animal life, and of their reactions on each other, are constituted of three or four only of the at present recognized elements; and that about a dozen of them are the most that are ever found to enter into their composition."—Noad's Chemical Analysis, page 438.

45.—Organic Chemistry.

"The name *organic chemistry*, is used to designate that branch of the science which investigates the phenomena and results of organic life, examines the chemical relations of animals and plants, and the properties and transformations of the peculiar bodies which they afford. The constituents of organic bodies, are comparatively few in number. Carbon, oxygen, hydrogen, and nitrogen form all the combinations *peculiar to* organic substances. In addition to these, however, sulphur, phosphorus, and iron sometimes occur, in small quantities, in organic products."—Dr. Silliman's Chemistry, number 637.

"It was formerly supposed that the product of the so-called organic substances, was exclusively the prerogative of life. But later discoveries have shown that it is possible so to combine the organic elements, as to form many of the products which were formerly obtained only through the medium of plants and animals."—Ib., 638.

This only shows that substances of chemical composition are sometimes found in the domain of organized bodies, as salt, in solution as food, calomel as medicine, etc. If they are not the exclusive products of life, they are not essential to life, and might be removed from its organization without injury to life. If they are as saliva, gastric juice, etc., they can not be formed by art.

"The organized substances show, either to the naked eye or under the microscope, a *peculiar structure*, entirely different from that of crystallization, never exhibited in those matters which have not been formed under the influence of the *vital force*. Such are the woody and muscular fibers, the cellular and vascular tissues, the globules of blood and crystals of starch. These are not always homogeneous chemical compounds; and art, even could it imitate their chemical constitution, will never succeed in giving them their organized forms. The power which effects this must ever remain one of the secrets [rather properties] of life."—Ib., number 639.

This is true, and therefore chemistry can not be said to enter into the composition of living bodies; all its power being controlled by the principle of

life, which forms organized bodies, and living substances. But says Professor Sulman, "the life principle of organized bodies includes those which are not parts of organized bodies, and are excretions or excretions of organized bodies." That is to say, it is the vital force which the bodies have of life, that is the cause of the vital force, hence. They are subject to the same laws of life as organized bodies. It is this second class of organic forces, which are called "chemical compounds," which we are here to speak about, and which are properly in the domain of the chemist. Among them are alcohol, ether, ammonia, acids, resins, sugar, gummy substances, etc., etc. — See 45.

The doctrine that there are two classes of organic forces is completely refuted by the professor's own words:

"The ultimate object of life, as light of all organized bodies, is to produce disorganization and to separate them from substances belonging to the second class." — See 44.

Then it seems that "vital forces" are "constantly engaged in constructing and maintaining the particular forms of the organized body they form," and "never more than a dozen simple substances will at once suffice to be always altogether sufficient to all the organic lives, and covering over of their domain ("extending") in successive stages for these purposes." While "chemical affinity, which we know from the law of life, can in the last the compounds which vital forces repeat." So that Professor Sulman's "second class of organic substances" is now dead.

But he says, the elements of the second stage, also, "are properly in the domain of the chemist." Let us take carbon and hydrogen and make of them alcohol, ether, ammonia, nitrogen, temperate, lime, pepper, etc.? If he can prove that vital forces can make the vital forces make them. It might prove only that these forces mix the elements and together into reservoirs, and absorb them in the form of their own chemical force, as we know they do the materials of which all tissues and animal calculi are formed. But can it be proved that the organic power ever unites the elements, carbon and hydrogen, into ether and ammonia, or nitrogen and hydrogen into ammonia? On the contrary, it is quite certain that these substances are formed by their chemical affinities, as they escape from the dissolution of organized bodies, as it is that water is formed by passing the electric spark through a mixture of oxygen and hydrogen gases; and are we not therefore shut up to the conclusion, that:

46.—Organic Forces

Form all organized bodies, and chemical forces destroy them, making out of their ingredients other compounds, simulating, in some cases, the substances excreted from organized forms, as foreign to their being or requirements?

47.—Alcohol, Morphine, Quinine, etc., not Organic Products.

Does the wheat, the rye, the corn, the potato, or the sugar-cane, produce, during its growth and health, the alcohol that is obtained from it by distillation, which destroys its life principle, and separates its element? Or does the animal principle ever form, while growing and thriving, the compound called ammonia, which is developed during the decomposition of animal and of nitrogenized vegetable substances? If not, then alcohol and ammonia are

not organic products, but simply the result of partial destruction by chemical power. And such are all the other substances obtained by the decomposition of organized bodies, and which Professor Silliman (or T. S. Hunt, his assistant) denominates, "the second class of organic substances."—(Number 637.)

If my positions are true, (and I will thank him who can to disprove them), it follows that the exhibitions of the results of the decomposition of organized bodies, are no evidences of the existence of those results in the bodies in a healthful state; much less of their production by the legitimate action of the vital forces of those bodies. For example: the extraction of alcohol from grains by fermentation which kills them, and distillation which separates their elements, is no proof that alcohol exists in the grain; but the fact that the living grains possess no power to narcotize the consumer, while the decomposed elements *can* do it, is proof that alcohol is not a production of organization, but of destruction—not of vital force, but of chemical affinity. The same is true of ammonia. It does not exist in the living body, but is developed during the process of decay or death.

48.—Chemical Analysis gives us no clue to the Properties of Organized Bodies.

This brings us to the just conclusion that *the results of chemical analysis give us no clue to the physiological properties of organized bodies.* They tell us not what is good for food or medicine; nor what is, nor what is not, poisonous. The fact that, under some circumstances, (chemical conditions and relations), carbon, oxygen, hydrogen, and nitrogen, all or any two or three of them, arrange themselves into different groups, whose sensible properties are very different, is no proof that the organized bodies contained these groups free from others, when in the healthy body. As wheat contains no alcohol, so bark contains no quinine, poppies no morphine, and peaches and cherries no prussic acid. As all these substances are composed of carbon, oxygen and hydrogen, it is only by physiological experiment (not chemical), that we ascertain which, in decomposition, separate themselves into groups suited for food, which for poisons, and which for medicines.

49.—Chemical Analysis can not reveal the Sources of the Results of Organic Destruction.

And still further, as the material constitutions of many organized bodies are precisely the same, *chemical analysis gives us no certain clue to the particular organized body from which the food, poison, or medicine found in the stomach of a dead man, or any where else, were obtained!* Let a man swallow any of the isomeric bodies, and then die, and let the chemist examine the contents of the stomach. He *may* find in them, we will admit, carbon and hydrogen in certain proportions, say as four to five; well, these are the proportions of *many* vegetable substances, can he tell which, any better than he can tell whether they are food, medicines, or poisons? Surely not. What then shall we think of those who pretend to find in the stomach lobelia, cayenne, or bayberry, or any other vegetable substance, because they may find there some of the elements into which all vegetable and animal substance are resolved when decomposed?

But, may not the elements of the articles taken into the stomach immediately combine with other substances, or the elements of substances already there, and thus produce new compounds, that were neither in the substance swallowed, nor the stomach, previous to deglutition? and, if so, can he who

finds these new compounds say, that they existed in certain specific agents prescribed by a physician, or a suicide, or a homicide?

If a simple mineral or metal be taken into the system, the chemist can, in many cases, detect it, because it is a foreign substance which the vital power will not appropriate, or which, if it unites with and destroys tissue, can still be reduced to its original condition; but all pretense to detect the specific vegetable or animal substances that have been taken into the system, is quackery—unworthy of the countenance of scientific men, or the respect of the general community; and I am grieved that the doctrine has obtained such extensive credence in society; and still more so, that the issues of life and death are often made to hang upon the mere opinions of medical men on these uncertain questions.

50.—Chemical Pharmacy of Doubtful Value.

Chemists, not satisfied with the more profitable employment of studying the properties and uses of the compounds of carbon, oxygen, hydrogen, and nitrogen, which the various vital powers have produced, have occupied themselves in subjecting these compounds to so many different circumstances, and to the influence of so many different re-agents, as to cause them to group themselves, chemically or mechanically, into thousands of different proportions to each other; and to each of these groups has been given some cabalistic name: but, as "only a few organic radicles have as yet been obtained—isolated,"—(Lowig, p. 40.) I apprehend that the result of it all will be of little use to science or humanity. To medical science I am very sure that, as a whole, it will prove an injury rather than a blessing; for, though *some* good *may* be found in it, or may grow out of it; yet, the mischief that will result from efforts to find out and appropriate that good, will more than counterbalance it. I have no belief that our benevolent Creator left to the discoveries and devices of modern chemistry, the remedies so necessary to the suffering multitudes of his dependent creatures, instead of—as the "figs" for the "boils," the "balms" for the "wounds," and "the leaves of the trees for the healing of the nations." The very difficulty of obtaining chemical compounds, the uncertainty of their identity and purity, and, of course, of their reliability, is, with me, an ample reason to reject them nearly altogether. The idea that all the results of the chemical tormenting of carbon, oxygen, hydrogen, and nitrogen, are organic compositions and decompositions, is stupidly ridiculous; and the notion set forth in our books on chemistry, (see Youmans, pp. 11, 12, 13, 15), that the same operations are carried on in the animal economy that are conducted in the crucible and laboratory of the chemist, is false almost throughout. In the crucible, vegetable substances ferment, and animal, putrefy, and both return to their original elements, or form new inorganic compounds. Are digestion and assimilation, and fermentation, putrefaction, and destructive analysis, or the formation of inorganic bodies, the same processes? If not, then these chemists, with Liebig for their leader, although they have done much good in some respects, have done more harm to physiology and medicine than good to general science.

51.—Concentrated Medicines not Reliable.

When our friends of the Reformed Schools commenced the operation of "concentrating" medicines, and obtaining the "proximate," or "active principles of plants," I requested them to consider the fact that their dissolving, distilling, and heating processes, would, more or less, change the

chemical constitutions of their substances, and, of course, their physiological properties ; and advised them to be cautious how they pronounced upon the qualities of the products of their concentrating operations, until experience in their physiological and medicinal use should establish their character and value. But they thought my opinions and advice too "hunkerish" and "old fogyish" to merit their regard. They obtained their "extracts" and "concentrations," pronounced them the quintessence of the originals, and published the statement that grains and ounces were worth ounces and pounds of "the crude substances." But how did *nature* answer these impudent assertions ? When tested in *her* laboratory, she found that many of those "concentrations" contained very little of the medicinal power of the originals ; that the quantities of others were quite changed, and that few, if any, were so good as when carefully preserved in the state in which the Great Physician made them. Those practitioners who desire to be able always to rely implicitly on the quality and power of their remedies, will do well to use them mostly in the state of nature, or those simple infusions, decoctions, or other preparations, the character of which experience has abundantly established.

52.—Experience, not Chemistry, teaches the Physiological Properties of Bodies.

Experience then, not chemistry, teaches us that some material substances are good for food, others for medicines ; but that many substances are poisonous, and that some motive powers act with vital forces, others against them.

From the preceding facts and illustrations, we perceive that we are surrounded with objects and operations that bear so close a relation to ourselves, that we can perform no act, however trivial, that does not accord with, and directly promote, our physical or moral welfare ; or violate the laws of that welfare, and subject us to a merited penalty. If we take exercise, food, air, water, or clothing, of the right kind and in due quantity and season, and avoid all external, pernicious influences, material and motive, health and happiness are the consequences. If we take these of bad quality, of too great quantity, or out of time—or if we eat poison, or subject ourselves to external and evil agencies, we violate the relations we bear to the objects and forces about us, and must suffer a warfare of the vital energies against these opposing objects and operations, proportionate to the kind and degree of violation. If we violate but slightly, an abridgment of present health or comfort, and of remaining life, may be all ;—if we bring the vital power in contact with an agent superior to the living power, death is the forfeit. If the air we breathe be charged with pestilential odors, instead of supporting life and health, it becomes a vehicle of disease and death. If our exercise be of an improper kind and measure, it produces mischief rather than good ; and if, in sickness and suffering, we resort to *poisons* instead of medicines, and do not ruin our constitutions nor destroy our lives, the escape must be attributed to the power of the organism to protect itself, rather than to any knowledge, skill, or providence of our own, against injurious attacks.

53.—Nature of Evidence.

In the preceding pages, I have shown that the evidence by which we expect to decide any question, should always correspond to the nature of that question ; in other words, that the evidence which decides the existence of matter, in masses sufficiently large to affect some of the senses, may be its direct effect upon the senses, while that of chemical analysis and of reasoning

on the relations of cause and effect, may as certainly decide on the existence of portions of matter too minute to affect the senses; and that the effects produced on matter by immaterial agencies, do as surely demonstrate both the existence and the specific character of these agencies, as the senses, etc., distinguish the being and properties of matter. They who object to the independent existence of motive powers, will there see the perfect absurdity of their position, that "we know not the existence in the universe of any thing that is not either matter, or a property of matter."—(Abner Kneeland.) Motive powers are not objects of sense but of reason. We must, therefore, not expect to detect them directly by our senses; but, indirectly, by our reasoning on the relations of causes and effect. If these bring us to conclusions which we do not like, we must not, on that account, reject their evidence. Much of the confusion, so manifest among reasoners of high repute for science and learning, arises from the indistinct views they entertain in relation to the nature of the evidence on which they should found their reasonings on different subjects.

54.—How to acquire Knowledge.

We can not, therefore, be too careful, in our scientific researches, to experiment with means and reason upon evidences suited to our object; and, in our decisions on the discoveries or experiments or opinions of others, to give credit to those facts and arguments, and those only, which bear upon the case. Still there is scarcely any position in science that will not admit of many evidences and modes of proof; and all important questions should be submitted to as many of these as our time and circumstances allow, before we settle them forever in the mind.

Thus, the more our senses we apply to matter, and the more numerous the ways in which we apply each sense to every kind and property of matter, the more we shall know of them, and the more perfect will be that knowledge, and so, the more facts we observe, and the more carefully and extensively we reason on those facts, the more shall we know of the identity and properties of the motive powers, and the more accurate and useful, will be that knowledge. This is true of all our searchers after knowledge.

Value of Talent.—Certainly, some persons have better natural talents for acquiring knowledge, than others possess. But talents can never supply, in the acquisition and use of knowledge, the place of a due amount of observation, experiment, and reflection. For want of these, men of great natural gifts, often entertain very erroneous ideas about matters, which a patient, thoughtful child may understand; and they commit errors and blunders in their actions that should disgrace even those of very ordinary minds. If, then, you desire much accurate and valuable knowledge, and to know how to use it for the benefit of yourselves and others, observe with every power, and in every direction; experiment to every end, and reflect upon all your observations and operations, and draw conclusions that oppose no facts, but harmonize with all.

55.—Philosophy.

The study of matter as we find it, in its simple or its aggregated powers, with its obvious properties and its sensible motions; such as the consideration of water as a fluid, its pressure, its incompressibility, its solvent and cleansing properties, etc.; and of air as a fluid, its elasticity and compressibility, and its life supporting power, is called *Natural Philosophy*.

58.—*Chemistry.*

The science or knowledge of the elements of all bodies, and of their properties and uses ; of the motive powers that act upon those bodies, and of *their* properties and uses ; of the changes that occur in the composition and decomposition of bodies, and in the properties and uses of those bodies, in consequence of those changes, or, in a different light and other words ; the science that teaches the reductions of combinations to their elements, and the constructions of other compounds ; the properties and uses of the various substances, simple and compound ; and the identity, proportions, and uses of the various motive powers, by which these changes are effected, is called *chemistry*. Thus, the decomposition of water and air into their original atomic elements, and the study of the properties and uses of hydrogen, nitrogen and oxygen ; and of gravitation, caloric, and electricity, illustrate this department of science.

The chemistry of earths, minerals and metals, involving the use of gravitation, caloric, electricity, chemical affinity, magnetism, and light, is called *inorganic chemistry* ; that of vegetables and animals, involving life, is termed *organic* or *vital chemistry* ; and is divided into vegetable and animal chemistry ; or, in a different light and other phraseology, the science of elementary bodies, and of the changes produced upon them by the action of the inorganic powers, (chemical affinity, caloric, electricity, and light), is called *inorganic chemistry*, (or chemistry proper). The science of the elements of organized bodies, of the innumerable forces called vital, of the changes produced on matter in the formation, preservation, and nutrition of those bodies, by the action of those forces, and the results of those changes—in other words, the science of the matter of organized bodies, of the vital powers, of the changes produced on those bodies by the action of those powers, and of the processes and results of the composition and decomposition of those bodies, is called *organic chemistry*, (more properly, figurative chemistry, or *vital physiology*).

The former is limited to the inanimate world ; that is, it takes no part in the formation of living (vegetable or animal) tissue, but is entirely overruled by the vital powers, which construct it, in spite of the effort of the inorganic powers to prevent that result. Thus, chemical power would ferment vegetable compounds, and putrefy animal matter. But, when these are placed in the animal stomach under the domain of the vital force, fermentation and putrefaction are entirely overruled, and digestion, a purely vital process, takes its place. But when, as in dyspepsia, the vital force is inactive, through the inability of the organs to respond to its impressions, chemical affinity does not yield to it, but maintains its own tendency ; and fermentation gives us acid in the stomach, and putrefaction makes a “fetid breath.”

Mechanical compounds are produced by simply adding mass to mass, and chemical compounds by adding atom to atom, or element to element ; but vital compounds are produced by the circulation of the elements in a fluid state into all parts of the substance ; through the medium of what are called *vascular systems*, as capillary pores in vegetables, and blood-vessels in animals. All the elements of nature are more or less combined into inorganic forms, while only a few () are admitted into the domains of vital powers. In inorganic chemistry, the elements are united in definite proportions, producing uniform results ; but, in organic chemistry, or more properly *formative vital physiology*, the unions of the elements are governed by no such regular proportions. I consider, therefore, that, strictly speaking, chemistry ends where vitality begins, though the laws or powers of each often contend

for, operate upon, and control, alternately, not at the same time, various substances within the compass of the human body, as the articles we take for food, drink, or medicine, and the inherent causes of disease, (as scrofula, tubercle, etc.).

57.—Chemistry, Inorganic and Organic.

As the laws of inorganic chemistry are constantly warring against vital organizations, and the vital power constructs its citadel and maintains its dominion in it, only by virtue of its avoidance of them, or its superiority over them and all other powers, life has often been termed *a forced state*. It is, in reality, however, no more a forced state than death; the organic forces prevail in the one case, and the inorganic in the other. The world is full of contending attractions; no state or condition is either produced or maintained, but by superior force; so, that, we may say with propriety, that life and death, motion and rest, wherever observed, are all forced, and, at the same time, are perfectly natural. The ink that has been wasted upon this subject, is like water that has been spilled upon the sand; it neither can nor needs be gathered again.

As these elementary principles of the formation, qualities and uses of all bodies, lie at the foundation of all sound knowledge of every subject, I must earnestly advise the reader to make himself perfect master of them, that they may be forever at his prompt command. They will do more than can all the books of logic that were ever written, to make him an extensive and an accurate observer, a solid, reliable reasoner, and an intelligent and impartial judge.

Having exhibited, in the material substances, and the motive powers, the bases of every science in the world, we are now prepared to understand what is meant by the term

58.—Science.

This word is derived from the Latin verb *scire*, to know, and literally signifies knowledge of any kind. In its most liberal sense, it signifies truth of any and every kind. Dr. Abercrombie defines it "the established relations of things." In a restricted sense, it signifies all those objects, laws, and operations which unite in the production of a particular result, or a connected series of results; as the science of geometry includes the consideration of the earth and all its forms, and the laws, rules, or principles, which enable us to measure them. Astronomy comprehends the consideration of the heavenly bodies, and the powers which produce, and the laws which govern all their motions. Architecture implies the knowledge of building materials, and the principles of proportions, etc., by which they are united in buildings.

Science in general may be defined, the principles which govern the operations of nature, or of art.

Particular sciences comprise only those principles which direct and govern these operations in the accomplishment of special ends; as mineralogy, botany, zoology, etc.

The term is sometimes restricted to the arrangement, by men, of the objects of science into classes, orders, genera, and species. Thus we say that Linnaeus was the first who reduced the confused elements of botany and zoology, to something like a science.

59.—Art.

The application, by men, of the principles of science to the ends they are capable of producing, is called *art*.

When the principles and the application are alike independent of men, as in astronomy, the science is called *natural*; when the principles are established by men, as in architecture, which proceeds from his fancy and varies with his taste, the science is artificial. Most sciences suggest and govern an art, as the principles of colors do the art of painting, and those of geometry teach drawing, etc. But truth alone is true science.

All the principles that belong to the same science, must either perfectly harmonize with each other in the production of definite ends, or they must counteract each other after such fixed laws as to tend uniformly to the same result; as the course of the planets is regulated by the opposing forces called centrifugal and centripetal.

60.—The Connection of the Sciences.

From the preceding propositions, it is clear that the more thoroughly we are acquainted with the principles of general science, the better we shall understand those of any particular science—in fact, that it is impossible to know much about any one science without also knowing many of the principles involved in others; hence, the vast importance of rightly commencing and systematically pursuing a course of scientific study.

MEDICAL SCIENCE.

THE science of medicine, say Gregory, Bigelow, Hays and others, "teaches the art of preventing and curing disease." It is composed of all those principles which, in harmony with each other, either separately or in some of their combinations, teach the art of preventing and curing disease, in all its various forms, and in all its stages short of the actual destruction of vitality in some organ or organs, the functions of which are indispensable to life. In few words, the science of medicine is that system of principles which teaches the art of preventing and curing disease.

In this proposition, all medical philosophers agree. See introduction, where, also, it is proved, as it follows of course, that principles which do not teach the art of preventing and curing disease, are not entitled to this noble appellation.

The first question of dispute among medical men is, What are those principles? The hasty answer from some inconsiderate tyro, frequently is, "The principles that are laid down in medical writings, by the professors and practitioners of the art." The more thoughtful rejoin—"Many of these are diametrically opposed to others of equal celebrity; Which must we choose, or how do we know that all are not wrong?" I answer, Let us choose those which enlightened experience has settled as true, and reject all hypotheses that have not been thus demonstrated.

"Who," says Dr. Waterhouse, "shall decide when doctors disagree?" I answer, "Experience." So say Lieuteaud, Abercrombie, Rush, Mitchell, Whiting, Good, Jackson, Eberle, Dunglison,—indeed, what man of common sense and common observation would give any other answer?

But, I shall be told, in the words of Hippocrates, "*falsa experientia*," experience is false or deceptions; or, in those of Dr. Cullen, "there are more false facts than false theories in medicine." Cullen was wrong. All *facts* are true, but many of them have been so misrepresented, as to give plausibility to false conclusions; and, therefore, I shall not admit, as demonstrative evidence, sufficient to establish the existence and action of a principle, any experience that wars against another already immutably established. In other words, the medical facts and results which appear opposed to the known laws of nature, will be held in reserve, for further observation and experiment; because, whatever be their real character, that which opposes known principles with which it should harmonize, is surely not the true. Truth is one, and can not be opposed to itself; and I would much rather leave, in any science on which I speak or write, vacancies for others to fill, than imitate the practice hitherto so destructive to medical improvement—of filling them myself for the sake of making a finish of my work, with errors that would cause the reader to suspect my truths.

In the propositions throughout this work, therefore, I shall put down only what I consider sufficiently established to be worthy of universal assent. Those who wish to see the facts and arguments that sustain them, will consult my "Criticisms on all the Medical Systems in vogue." Thus the busy practitioner, careful of time, can soon read the rules and directions on which he may safely rely; while the student and the philosopher may scan, at their leisure, the grounds of their support, or the principal objections against them.

Every branch of medical science, as well as its united whole, has reference to the welfare of the human frame, the most complicated and wonderful piece of workmanship with which we are acquainted; and, therefore, all the knowledge we can have of this ingenious and intricate structure and its uses, must be interesting; much must be very useful, and not a very little, indispensable to a correct and complete knowledge of the science and the art of preventing and curing disease. The knowledge of its several parts, their substances, structures, forms, locations, relations and relative proportions, is called **ANATOMY**. That of their functions, is called **PHYSIOLOGY**, which in fact includes the other, as it signifies a treatise on nature.

I have here presented a much disputed point: But I trust I shall be able to prove that every word it contains is just what it should be.

It is the opinion of many persons that anatomy is of all kinds of knowledge, the most important and indispensable to the physician. "As we can not suppose," say they, "that a man who knows nothing of the intricate machinery of a watch, should know how to repair it when deranged; so we can not expect that a man who knows nothing of the human machinery, should be able to cure its diseases."

At first sight, this argument appears plausible, but a closer examination will prove it defective. In the first place, there is no fitness in the comparison. It is justly required of the watchmaker to make new wheels, etc., to the watch, or to mend old ones, because he made them, but who ever justly expected a doctor to make a new human organ, or mend an old one? much less to set in motion again, one such organ that had stopped running? All we expect of the doctor is, to furnish the human machinery with those materials which aid it in its efforts to accomplish its own work. And even this duty he can never have learned by mathematical calculations, nor chemical experiments; no, nor by inspecting, ever so nicely, the organs of a dead body. He may conjecture the motions to be produced; but he can not imagine by what means. All his most valuable knowledge on this subject, must be derived

from observations of the effect of remedies on the living body, both in health and in disease. Of the *modus operandi* of medicines, physicians confess that they know nothing. Abercrombie, page 23, says:

"Why one medicine acts upon the stomach, another on the bowels, a third on the kidneys, a fourth on the skin, we have not the smallest conception. We only know the uniformity of the facts."

Now, I ask, did *we* get even this knowledge of the facts by studying the structure of those organs, and the nature and qualities of medicines, and comparing them with each other, with a view to discover the suitableness of the latter to produce certain specific actions in the former? If not, then anatomy and chemistry had no part in this important discovery; living physiology alone revealed it, and to the inspection of the unlearned, almost as clearly as to that of the learned. (See Abercrombie, 293-300.) Messrs. Wood and Bache, Professor Chapman and others say the same thing in substance, thus: (page 348, U. S. Dis.) "Of the *modus operandi* of mercury, we know nothing," etc. Professor Chapman says, (Ther., vol. i, page 42), "Experience of their effects on the body in a diseased condition, is the only mode of determining the virtues of medicines." But, both he and Dr. Abercrombie, (page 298), have proved that *this* mode is inefficient, on account of "the operation of a new order of causes, by which the phenomena of disease are varied and modified; and by which the action of external agents is aided, modified or counteracted, in a manner which altogether eludes our researches." Thus the requisition justly made of a watchmaker, that he should be well acquainted with all the parts, the motive power and *modus operandi* of a watch before he attempts to repair it, if made also of physicians, in regard to the human machinery, cashier every doctor on the globe.

Further, we have the direct testimony of men well versed in anatomy and physiology, that the increase and correction of knowledge on these subjects, is not attended with a corresponding degree of success in the prevention and cure of disease.—See Crit., Nos. 24-26.

It is generally supposed, with a good degree of reason, that neither Hippocrates nor Galen knew much of anatomy: and that they both entertained some erroneous notions in both this and physiology, is unquestionable; still it will scarcely be doubted by any well-read physician, that they were quite as successful in curing the sick, as even those of our modern anatomists and physiologists who have traced the ten thousandth division of a nerve, and eaten up Richerand, Magandie, Wilson and Dunglison.

From the above and similar evidences of the inefficiency of anatomy and physiology, to perfect the healing art, the inconsiderate might, (as many have done), take up the conclusion, that this species of knowledge is of no use at all to the physician. I would earnestly caution you against drawing such a conclusion. Remember the evidences given in the introductory, that there may be other reasons than the character of their own intrinsic nature or powers, why either certain principles or processes or remedies, prove unable to accomplish the ends aimed at in their application.

In proof of the position that the knowledge of these branches is useless or nearly so, some adduce the facts above stated, that the greatest anatomist and physiologists are generally inferior to the most ignorant Botanics in skill as physicians. Samuel Thomson and many of his followers who knew but little of minute anatomy or physiology, have been among the most successful practitioners of medicine that ever lived. This is, however, no proof against the utility of anatomy and physiology. The reason may be, and it certainly is, that the former want some other kind of knowledge far more important

than this, which the more successful Botanic practitioners possess, and which, if they had it, would render their anatomy and physiology available and efficient : I mean the knowledge of proper remedies and their proper use. For I have already proved that the principal business of the physician is to apply proper remedies in a proper manner. Nature, not like a watch obeying the dictates of superior intelligences, but, like a wise defender of her temple and repairer of its broken walls, seizes the conveniences, implements and powers handed to her by her servant, the physician, and uses them in her own way to accomplish her own purposes, as her circumstances require.

Nor does it prove that the successful physician whose knowledge of anatomy and physiology is limited, would not be far more successful than he is, had he this knowledge also, in addition to the more important knowledge of the proper remedies and the best modes of their administration. Some such have said, "I cure all my patients ; what more can you ask ?" I answer, I ask you to cure them in a shorter time, with less medicine and less suffering, sorrow and expense, and I assure you, that a thorough knowledge of anatomy and physiology, in addition to the more valuable knowledge you now possess, would often enable you to do it. Were not this a sufficient reward for the labor and expense of its acquisition ?

But, perhaps, you want proof of this. Then, I assure you that I have been often called in consultation, in cases which had long been treated with good medicines, and according to the general rules of prescription, with apparently little benefit. An anatomical or physiological examination soon convinced me that either the right remedies had not been used or had not been properly applied as to manner or location, or that the practical defect had been owing to the result of several, or all such errors combined. A little advice, in accordance with the dictates of anatomy or physiology, insured the most speedy and happy results. The Recorder will furnish numerous instances in which this has been the result of consultations with me through the media of private letters. And now I ask, if anatomy and physiology can be instrumental only in saving the practitioner much labor and anxiety and time to relieve others ; and the patient, months, weeks, or even hours of sorrow and pain, to say nothing of the danger of delay, the fatigue of friends and the expenses of all ; who, I ask, will take the responsibility of treating them lightly, much less of despising and proscribing them altogether ?

But again : It is not true that any persons who are very successful as physicians are very ignorant of anatomy and physiology. They are successful, because the character of the disease is but little affected by the part on which it is located. Disease is a unit, and the treatment that will remove it from one organ, will remove it from another. It has a few normal indices which are readily recognized by studying the operations of the living system in health and disease, so that it is almost impossible for any observing man to live to middle age, without having derived from a consideration of his own person and those around him, a large portion of the most important doctrines of anatomy and physiology.

I first took up a book of physiology, under the impression that I was about to learn a new and most intricate science ; but I was soon surprised to discover that almost all the doctrines that the learned author had fully established, seemed to have been familiar to me from my childhood.

Moreover, I have carefully questioned many who objected to a thorough study of anatomy and physiology. Some I have found pretty well versed in the grand principles of both, and not a little proud of these very attainments ;

their only objection seemed to be against the early acquisition of this knowledge in a systematic manner and in a short time, from the lips of experienced professors, and to calling it by those hard names; instead of catching it by piecemeal in the course of a long, partial and often fruitless experience, under many disadvantages; and not knowing what to call it at last! Others I have found who were, indeed, quite ignorant of these matters, as some will be of almost every thing, even when they have great advantages. These, I could distinctly perceive, were opposed to this study, not because they knew whether it is useful or not, but because they feared that it would give its possessors some advantage over themselves. I leave you to weigh for yourselves the force of this argument; and refer you again to the language of the proposition, confident that you will agree with me that it is just what it ought to be.

Having determined, in my own mind, if I have not made it clear to others, that anatomy and physiology claim no slight attention from the student of medicine, it might be expected that I should present to you at once, a concise treatise on each of these. I shall, however, give you here, only that general view of these branches which is necessary to your clear comprehension of the main subject before me—the “Theory and Practice of Medicine.” This I do without regret, because I can safely recommend to your careful study, in connection with your course of Lectures on Anatomy and Physiology, many standard and valuable works on these subjects—as Wilson, Sharpless, and Quain; Kirkes, and Pagitt, Carpenter, etc.

1.—Anatomy.

The term *anatomy* is derived from the Greek *ana* through, and *temno* to cut, and is designed to indicate all that kind of knowledge that is obtained by the dissection of dead bodies.

Suppose the human body placed between your eyes and a brilliant light, all its organs transparent, but in shades so nicely graded and disposed, as to render the figure and texture of each distinctly visible; as the microscope presents those of many of the insect tribe. The most solid, dense, and generally deepest seated portions of this body, would be the bony framework, or what is called the skeleton of the system, the study of which is called *osteology*, from the Greek *osteon*, a bone, and *logos*, a description of, treatise upon, etc.

2.—Tissues.

A multitude of little threads or fibers, running in different directions, and so laced together as to form a sort of net work, is called a *tissue*.

In the animal frame, these tissues are differently constructed, and for different purposes. They are considered the bases of all the organs of the system. They are generally considered four; the osseous or bony tissue, the cellular or fibrous and membranous tissue, the muscular or elastic tissue, and the nervous tissue. The osseous differing from the cellular only in being filled with hard, earthy matter, there may be said to be only three fundamental tissues, the cellular or gelatinous, forming the basis of all the organs or parts of the body; the muscular or fibrous, which, combined with the cellular, forms the muscles, and the nervous or albuminous, composed also partly of cellular and muscular tissue, imbued with a pulpy albuminous substance. If all the fluid and earthy matter could be macerated from the animal body, as the parenchymatous substance may be from the leaf of a tree, there would still remain the cellular framework of every organ in it, consisting of minute, white, supple, inelastic fibers, so interlaced with each other as to present the

form of the whole body, and of each particular organ. In the bones, this framework is filled with hard earthy matter, chiefly phosphate of lime; in the cartilages, with a less solid and more elastic gelatinous substance; in the muscles, chiefly with elastic fibers, and in the nerves with albuminous pulp. The vessels and membranes also, are composed of cellular, muscular and nervous fibers in different proportions. See each of these structures hereafter described.

3.—The Bones.

A skeleton is exhibited. Here, are all the bones in the system, with their substance, structures, proportions, locations, relations, appendages and uses, exhibited to the eye, as well as described to the ear.

This bony framework of the human system generally consists, in its perfect state, of about two hundred and fifty-two pieces and divisions of pieces, so constructed as to combine, in the best possible manner, lightness with strength, and to give to each piece the relative size and form, exactly proportioned and suited to the several offices which it is destined to perform. The brain and spinal cord occupy spaces so located as to diminish, in but a very small degree, the strength of the bones that circumscribe them, while they are thus completely protected from the influence of pressure from external causes. Some bones are so hollowed out, others so perforated, bent, grooved, crested or projected, as to protect the soft and delicate branches of the brain and nerves, the brittleness of which would not admit of much pressure. These also afford passages, protection and attachments for the muscles.

The unions of the pieces with each other are, moreover, situated exactly in those places where the circumstances in which we are placed, render it most convenient to bend them; and, lastly, the sockets and tenons, flexible joints, or rotary pivots are exactly adapted to the strength of the whole machinery, and to the kind and degree of motion which it may ever be convenient for man to perform. So exactly, in all these respects, is the design suited to the end, that the more we contemplate the subject, the more thoroughly we are convinced, that there is no imperfection in the machine; that, to add to, or detract from it, or any part of it, were certainly to mar its utility, its beauty and perfection.

4.—Structure of Bones.

If we examine their elemental structure, we shall find them composed, in part at least, of different materials from those which constitute other portions of the system; materials whose density and elasticity forbid their yielding to pressure or flexure, as do the softer parts. In some portions of them as in those of the skull and spongy ends of most bones, we can distinctly discover the process of the circulation; and the frequent changes observed in the shape and texture of others, clearly prove that the elements of which they are composed are often removed and their places supplied by others. Sometimes their proper places are entirely destitute of bones; at others, bony structures of irregular shapes are formed in parts not designed to contain them, as the liver, the lungs, the placenta, etc. In general, however, there is no appearance of circulation in the solid bones, nor are they, in a healthy state, sensible to the touch. Still, as there is a manifest difference between the appearance of the bones in a healthy body, and those of a diseased or dead one, and as they readily unite after fracture, we are compelled to believe that there is some kind of process going on, that preserves or restores their

integrity which can be effected only by blood-vessels and nerves. They differ very widely from the same material composition in the bowels of the earth; they are evidently *alive*, though of themselves they are incapable of motion.

In the earliest periods of organic existence, the place of the bones is occupied by cellular tissue filled with a gelatinous substance; but, they soon become hardened into a kind of cartilage or gristle, and, into this again is deposited, somewhat in the manner in which petrifications take place, the earthy matter, principally phosphate of lime, that constitutes the hardness of the bone; thus in the hard-bones, the gelatin has disappeared, and little else than the fibrous, bony structure, with its blood-vessels in many, and its nerves in some, are visible. This process commences in the places where the bones afterward become the most dense, and spreads toward their ends or edges, until it is completed about the period of full growth. The ends and edges, however, never become so hard as the center of ossification.

Soak the bones in sulphuric acid, and you remove the lime and render them flexible; burn them in a furnace, and you remove the phosphoric acid, fibrin and gelatin, and reduce them to lime, when they will easily crumble to pieces.

5.—Injuries from Dress and Habits.

During the growth of the bones, from infancy to manhood, they are soft and flexible, and easily prevented from growing in a natural manner, or compelled to grow in any shape the fancy may dictate. Hence the arms are often distorted by the violence of nurses, and the legs by attempts to stand, walk, etc., too soon, and the spine is much injured by bad positions, for a long time at the educational desk or table.

Hence, too, many uncivilized nations are enabled to compress the bones of the skull in various ways; the Chinese prevent those of the foot from growing to the full size, and thus, far too many of the "better-half" of the most refined nations of the earth, so prevent the proper growth, and constrain an improper and unnatural form, as to produce, perhaps, more misery and sorrow and death to themselves, than they derive from any other single cause of bodily evil to which they are subject. When the ribs are soft and the costo-sternal cartilages, the gristly substances that connect them to the breast-bone, and that at the lower end of the breast-bone itself, are growing, they may be prevented from arriving at full size, by simply confining them where they are in childhood or youth; and this is called "not lacing tight," though the effect is to impair respiration, digestion, circulation, sensation, etc., (of which more hereafter), to a degree which none but a sound physiologist and practicing physician can duly estimate, and which no sensible female would be willing to risk, could she be fully aware of the evil results. Only a few of those evils can be mentioned here:

1. The bending in of the ensiform cartilage at the lower extremity of the breast-bone, the approximation of the costo-chondral cartilages, and the curling under of the false ribs, produced by the corset and the busk; aye, and the tight coat, vest and waist-band too, compress the blood-vessels of those parts, arrest the circulation and produce the pains which are often called stitch in the side, pain in the breast, stomach, etc.

2. They prevent the full growth and expansion of the lungs, and, of course, the oxygenation of the blood and the nutriment of the whole system.

3. Corsets, busks, belts, etc., prevent the growth of the diaphragm to its proper size, so that it can rise and fall in respiration to an extent sufficient

to aid digestion ; and this, added to the compression of the lungs just mentioned, multiplies ten fold, the certainty of producing dyspepsia.

4. They prevent the blood from freely passing to and returning from the lower extremities, the consequences of which is cold feet, fullness and pain in the head, etc.

5. They press the intestines into the pelvis, and produce bearing down pains which can not be appreciated until they are felt, when it is often too late for remedy.

For sundry more of the evils of corsets, busks, small shoes, etc., see my work on Obstetrics.

How long will our female friends continue to do such violence to the noblest workmanship of God ? Just so long, let me answer, as they are ignorant of the nature and effects of their conduct, and induced to believe that their male friends, you, young gentlemen and your contemporaries, approve of it ; and how long will *you* approve of it ? I answer again, until you learn the wisdom to prefer a noble frame, a sound constitution and a healthy and cheerful companion *for life*, to a distorted and feeble frame, a sickly and dejected countenance, a train of nurses and doctors, for some two, five or seven years, and an early and painful release from the blessing of connubial life, marred, cursed, and terminated by busks, belts, and corsets.

As doctors you will never want business so long as calomel and corsets are in fashion ; but as men and philanthropists, I call upon you this day, to exert your utmost power to persuade parents, teachers, and all who have any influence in the training of youth, to set their faces and their authority against this abominable fashion, as they value their health and their life.

The bones are frequently injured by particular forms of disease, as rheumatism and scrofula, which cause them to decay, and pass away by absorption. Sometimes their hard parts are removed, and they become flexible, and this condition is termed *mollities ossium*. At other times the gelatin is abstracted from them and the deposit of lime becomes too great, and then they are so brittle that they easily break. They are also rendered spongy by scrofula, and by mercury administered to cure disease. Dr. Blundell has a pelvis that was infiltrated during life with mercury, which is now visible in globules in the intermediate structure ; and he reports sundry others. We have no certain means of their restoration after decay, although chemistry has taught us of what they are composed. It matters not what kinds of food are eaten, or harmless medicines are taken, very nearly the same amount of bone is found in the system under almost all circumstances. In medicine, therefore, we operate on bones not exposed, only through the medium of the circulation.

6.—The Periosteum.

The bones are covered, in all their extent, except the places of their union or articulation, with a strong, thin, firm and closely adhering membrane of cellular tissue, called, *periosteum*, from the Greek *peri*, about, and *osteon*, a bone. This membrane lines also the internal cavities of the hollow bones. It receives different names according to its locations, and is well supplied with arteries, nerves, veins, and absorbents, apparently for the purpose of preserving the integrity and vitality of the bones, and promoting their changes. To this we find firmly attached, the ligaments and many of the muscles of the system. When inflamed, it becomes spongy and many times as thick as in health, permitting the free passage of material to mend the broken bones. In health, it is not very sensible, but when diseased, is extremely painful, as in felonies.

It is the seat of chronic and inflammatory rheumatism, in many cases of which it has been recommended to lay open the flesh above and scrape it, for the purpose of curing that form of disease! This membrane can be seen on the bone of any animal, where it has the same appearance as in the human subject, being of the same material and structure; and here I recommend you to examine this as well as every other structure common to men and brutes. It is far more abundant as well as cheaper and fresher, in the butcher's stall than in the dissecting room, nor is it so unpleasant to handle.

7.—The Cartilages.

Some of the bones are united to each other by immovable joints; as the ischium with the iliacs, the clavicles with the sternum, the pubics with each other. These connections are effected by means of a strong, white, fibrous substance called cartilage, which is firmly attached to each bone.

The cartilages are exceedingly elastic, but very little extensible, and therefore render the parts connected by them, capable of slight changes of form and instant recovery, to accommodate themselves to accidents and circumstances, without serious injury to themselves or other organic structures. See those between the vertebrae, or blocks of the back-bone of an ox or other animal.

Other bones are united by movable joints; and their tenons, condyles, trochleas, sockets, etc., so far as they ever play in or upon each other, are covered with the same material, which, in this case, presents a smooth surface for motion, and, as a sort of cushion to prevent injury to the ends of the bones, by sudden compression against each other, as in jumping, etc.

These latter have a smooth surface which is considered by many a continuation of the periosteum, though the structure is certainly of a much finer and apparently less fibrous and vascular texture. They preserve the articulating surfaces of bones from abrasion, facilitate their movements, and secrete synovial juice. They are often injured by dislocations or poisonous medicines, particularly mercury of which I have seen many cases.

In the dislocations of bones, these substances are inclined to thicken when the pressure is taken off, even to the filling up of cavities from which a condyle or head has been removed, as the acetabulum, or cavity in which the head of the thigh-bone plays; and to become thinner and almost obliterated when the pressure is increased. Hence the difficulty, often, of making a bone retain its place on setting, after long dislocation. Hence too, the reason why, after a person has accustomed himself to leaning forward until he becomes crooked or "round-shouldered," it is difficult and even painful to straighten himself, the cartilages between the vertebrae of the spine, having become thin in front, and thick behind, like wedges. The habit of sitting or walking crooked, produces nearly all the "curvatures of the spine," which are so much dreaded on account of the deformity they exhibit. If these curvatures be forcibly counteracted for a while, even at the expense of pain, the cartilages will recover their proper form, and the spine will become straight.

There is a substance called cartilage, that connects the ends of the ribs with the sternum. It is shaped much like the ribs, and is capable of considerable contraction and expansion in breathing. By confining the chest in corsets during its growth, these cartilages become shorter and thicker than they would if suffered to grow freely; they are also made to approach each other nearly to contact below the sternum, where they ought to diverge to

the distance of four or five inches. This greatly diminishes the cavity of the chest, and gives to it the form of a top instead of that of a woman.

8.—Ligaments.

Again, the same material, in a still more fibrous form, is attached to the ends and sides of the ends of the movable bones brought in contact, in such a manner and in such numbers, as to preserve their place whatever be their flexure or position. These are called *ligaments*. In some places, as the shoulder and hip-joints, they extend from the margins of the cavities all around, and entirely surround the head of the bone, when they are called capsular; in other places, as the knee, elbow, wrist, foot, etc., they consist of many stripes differently disposed, and are named according to their origin and insertion. See Sarlandiere, Smith or Wilson.

Ligaments are still further disposed in bands to extend between different projections of the bones of the pelvis to support the intestines; and under and about internal viscera, as the stomach, liver and brain, to hold them in place.

These substances being very dense, the circulation in them is exceedingly slow; of course they are seldom injured except by strains, and when they are, they are slow to recover their healthy condition.

9.—Muscles.

Of a somewhat different substance and a still more fibrous and elastic character, certain other organs will be seen arising from the periosteum of the more fixed bones; at different points of their length, extending across the joints and attaching their extremities to the more movable bones which they raise, depress or change in position, in various ways. Some of them have their origin upon bones and their insertion in the fleshy parts, or on the surface; others have both their origin and insertion in fleshy parts, while still others are constructed in the shape of rings, and, by their contractions, close orifices, as the mouth, the pylorus, etc. From the resemblance of some of them to a flayed mouse (*mus*), they are called *muscles*. They are all capable of contraction and relaxation. Many of them, as those of the limbs, acting in obedience to the will, are called *voluntary*. Those that act without reference to the will, as the heart, etc., are called *involuntary*. Those that aid in respiration, being partly voluntary, and partly beyond the control of the will, are called *mixed*. The end attached to the most firmly fixed bone or other portion of the system, is called the *origin*, the thickened part the *belly*, and the other end, the *insertion*. Nearly all are composed of thin, red, soft, irritable, contractile, fleshy fibers, interspersed with others of a firmer texture, and a white glistening color. The red fibers prevail in the belly, and the white toward the origin or the insertion where they frequently form a *tendon* or cord, as at the shoulder or the heel, toes and fingers, or expand into a broad, thin, flat surface, termed *aponeurosis*; as the diaphragm.

These organs, and others composed of the same materials, by their contractions and relaxations, produce all the movements of the several parts of the human machinery, as well as of the whole together. Excepting nine, the occipito-frontal, the circular of the mouth, the azygos uvulæ, the two arytenoid or epiglottides and the diaphragm, all the muscles are double or in pairs; that is, one situated on each side of the center of the body, so as to operate in producing the motions of its right and left portions. Of these pairs there are one hundred and ninety-eight. Each of ninety-four pairs has

another pair that acts in opposition to it, and is thence called an antagonist. The pairs that bend a limb, finger or toe, are called flexors; those that straighten it are called extensors or antagonists to the flexors, etc. Those that act to the same end, are called congeners. Muscles have no considerable power to extend a part by their relaxation. All their important operations are produced by antagonistic contractions. They are abundantly supplied with arteries, veins, nerves, lymphatics and serous membranes; and are therefore very liable to be diseased, and of course objects of peculiar interest to the medical practitioner. They are often the seats of deep inflammation, ulceration, etc., when, though not very sensitive in health, they are endowed with exquisite sensibility. Their essential fibers are white and everywhere interspersed with serous membranes. Their apparent redness arises from the infinite number of red particles of blood in their arteries and veins.

The contractile disposition of the muscular fibers, renders it very difficult to bring together the edges of a wound that is made across them; and hence such wounds, in healing, generally leave a broad, deep scar. Hence also, it is important to know the course of the muscular fibers in every part of the body, in order that we may avoid severing them transversely in surgical operations. Inattention to this particular, might deprive a patient of the use of a limb, or of some important parietal support. See the plates of Sarlandiere, or the cuts of Wilson.

The muscles serve also to protect the bones and other parts from injury, and to give symmetry and beauty to the whole figure. They include, and are surrounded by depositions of fleshy matter that may be greatly increased or wasted away without destroying their organic integrity or entirely arresting their operations; as when one grows fat or poor, it is chiefly this matter in or about the muscles that increases or wastes away.

The situation of their fleshy parts, in such places as the inside of the arms, hands and fingers, under the thighs and pelvis, and on the lap, etc., is a conclusive evidence of design in their formation; and their arrangement in such a manner as to prevent such a contact in crossing over or under each other, as to disfigure the body, is another evidence equally striking.

But for the opposition of flexors and extensors of bones, and contractors and retractors of other parts, the muscles would contract in length and thicken their bodies, to the utmost of their power, and remain in that condition until they become incapable of extension. Indeed, it often occurs that a limb is bent so long by sickness, bad habit, confinement or other cause, that the flexor becomes permanently contracted and the extensor permanently extended; in which case the limb is nearly or quite useless, until by applying relaxants to the flexors and astringents to the extensors, the balance of contractile power is restored. In cases of dislocation, both antagonists become contracted, so that it is often difficult to relax them sufficiently to permit a restoration of the bone to its place. But the greatest mischief that usually results from this contractile power of the muscles, arises from the prevention, by corsets, bandages, etc., and by bad positions of body, during childhood and youth, of the full growth of the muscular structures. If, by confining the chest and abdomen within a small compass, the ribs be prevented from expanding to their proper shape, the diaphragm and abdominal muscles will grow thick instead of large, and so diminish the cavities near the former, as to force the lungs upward to the neck, producing confinement and shortness of breath and predisposition to pulmonary affections; and, at the same time, the abdominal viscera will be forced downward producing permanent distension of the lower abdominal walls and ligaments, and an

undue pressure upon the pelvic organs ; from all which arise evils, pain and mischief, beyond the power of human estimation. The stomach, intestines, heart and blood-vessels, too, if not distended by the proper kind and quantity of materials, are liable to become permanently contracted to such a degree as greatly to impair their functions. The muscles are furthermore greatly strengthened by a proper kind and degree of exercise and proportionably weakened by total or partial inaction.

In the light of these facts of which every reflecting person is aware, how important is it that all the muscular structures be permitted, without restraint, and encouraged by proper and sufficient exercise, to grow to their full size ; and that the body never be permitted to remain long in any but a natural position. All long continued stooping, or bending in any direction, is improper. The female fashion of carrying the fore-arm horizontally instead of suspending it at ease, is a very pernicious custom, that should be discountenanced by all who value the proper growth, beauty and health of the system.

The study of the muscles and muscular structures to the utmost minuteness, is exceedingly interesting, and by no means wanting in profit to the general reader as well as the physician. The most convenient and interesting method of pursuing this study is to get some good plates and descriptions of them, and, as each muscle comes under consideration, let the student exercise its functions in his own person, endeavoring with the hand, to feel the origin and insertion, so far as they can be felt, and the enlargement of the body produced by contraction, or the diminution effected by expansion or relaxation.

As I have recommended, and with much pleasure, to your attention, Dr. Smith's "Class Book of Anatomy," I must here correct what I consider, if I understand him, to be a very erroneous notion of his, in relation to the muscles. He says, page 53 :

"Every muscle in the body is always tense. Relaxation is a misapplied expression, if it were understood that the rest of the muscles is like a rope slackened until it becomes pendulous between two points of attachment. However much a joint may be bent, the muscles always remain tense ; apparently as much so, as when actually put upon the stretch by the extension of the same joint."

Did the doctor never see the muscles in the calf of the leg so relaxed by sickness that they "hung pendulous from the points of attachment?" Again he says, "when the hip-joint is dislocated, the muscles of the thigh, finding nothing to oppose them, shorten the limb by several inches, and hold their grasp so tenaciously, that pulleys are required to overcome the unrestrained activity."

Surely the doctor never saw a person under the full influence of lobelia, or he would have seen the muscles sufficiently relaxed without pulleys. But I could point him to a case not fifty miles from Boston, in which *mercury* so relaxed the muscles and ligaments too, of the hip-joint, that the femur fell out of place while the patient was in bed ! This "good medicine," then though "in skillful hands," produced many sores about the head of the femur, and the posterior surface of the iliac bone, which terminated in adhesion so strong that even lobelia could not remove them. I could tell him of another case in New York State, where the muscles of the hip-joint were so much relaxed by lobelia, that the bone was replaced simply by some fortunate position in bed, after the regular pully gentlemen had tried their strength and skill in vain to replace it.

He continues, "when the joint has been too long neglected and the head of the bone can not be carried back to the socket on account of the violent rigidity of the surrounding muscles, they invariably continue in that condition through life." I could tell the doctor that we here produced, simply with lobelia and our fingers and thumbs, a variation to the right condition, in Collins Bishop's foot, after it had been out for sixteen months, and pronounced, for more than a year, by his regular brethren, utterly incurable!

Lastly, the doctor says, "muscles are never weary. If their irritability were reduced by fatigue, it could never be recalled."

This is surely a strange doctrine. Let the doctor take a brick in each hand, stand upright, and extend his arms horizontally in opposite directions, and see if his muscles do not get weary! and whether, after he has thrown the bricks away and suffered his hands to hang down for an hour, the contractile power will not be recalled.

"When we are perfectly exhausted," he adds, "by continued fatigue, the muscles are not the sufferers; they then show their activity by violent exertions. Cramps, severe spasms and painful contractions, at such times supervene, and rarely at any other. These arise from loss of nervous power, which is the regulator of the system. That power may be diminished by long continued exercise, by extreme watchfulness, or by many other causes. Yet, while it is feeble, the muscles contract, and permanent distortions ensue if the nerves do not recover their energy. We retire to our beds, not to give the muscles an opportunity of reposing, but to recover nervous influence."

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I think it would be difficult for the doctor to give a good reason why the muscles should be less liable to fatigue and needy of rest than the nerves.

The stomach is described, by anatomists, as "a muscular structure," and yet it is said that it gets fatigued by digesting a full meal, and needs rest; physicians very properly recommend fasting after excess, to give the stomach rest. But, says Dr. S., the muscles are always acting, and never need rest! I need not argue the point. Every person knows whether he ever fatigued his limbs by over exercise till the muscles refused to raise the hand or move the foot against the most trifling obstacle; and anatomists say, and truly too, that the nerves only convey to the muscles the dictates of the will, in obedience to which the latter do their work. So far, indeed, from never needing rest, the muscles are the parts of the body that most frequently need it. Nothing is more injurious to the system than to keep any portion of its muscular structures constantly in action. Without frequent changes of position to relieve the muscles, the system can not be preserved in health or free from pain. Any employment that requires a fixed condition, or any regular motion of the muscular system, is injurious; that which requires the greatest variety and frequency of change in muscular motion, is the most healthy. Hence, literary men, book-keepers, teachers, tailors, shoemakers, etc., are so apt to be unhealthy, while the farmer is seldom sick.

In the bones, the cartilages and the ligaments we have the frame work of the body properly cushioned and fastened together. In the muscles we have the organs that possess the power to produce its locomotion.

10.—Object of Organs.

In the preceding propositions, I have described the apparatus of support and locomotion. It now becomes necessary to consider the instruments and means by which the preceding organs, and others yet to be examined, are preserved in a sound condition, or restored after injury. We all know that

the cartilages, ligaments and muscles, if not constantly kept moist and lubricated, would soon dry up and lose their elasticity and suppleness, and the friction of the machine would increase, rapidly wearing itself away, until, finally it would cease to go at all. To prevent this disastrous result, as well as to construct the machinery in the first place, there is provided a series of organs denominated, gustatory, masticating, digestive, absorptive, circulatory, secretory and excretory, which I now proceed to describe.

11.—The Heart.

Situated between the two lobes of the lungs, the point pending upon the diaphragm, behind the cartilages of the fifth and sixth ribs, is a turbinated muscular and cellular structure called the heart, which is an object of great interest, not only to the physician, but to every human being. The base is uppermost, its point is downward between the small lobes of the left lung, and turned forward and toward the left side. Its fibers run in every possible direction, so that, by the contractions of some, others are distended, and the walls are thickened or thinned according to the necessities of the case. Cut the heart of an ox, and you will see these fibers contracting in every direction.

12.—Auricles and Ventricle.

On the top or base of the heart, are two muscular sacs, which, from their resemblance to human ears, are called auricles. In the right are four apertures; two entering from the venæ cavæ, one from the coronary vein, and one passing into a deeper seated cavity of the heart, called the right ventricle; though in fact the heart is so situated that this cavity is nearly in front. The left (or back and left) auricle, is a similar sac, in which there are five apertures, four entering from the four pulmonary veins, and one descending into the central part of the heart called the left ventricle.

These auricles and ventricles are composed of muscular fibers. The outer, longitudinal; the middle, transverse, and the interior, oblique. They are lined with muscular pillars running in various directions in such a manner as, by their simultaneous contraction with the parietal substance, to very nearly obliterate the cavities, and force out almost all the fluids they contain. The inner surfaces of the auricles and ventricles, are so very irritable as to be highly stimulated by the blood. In the fetus, the ventricles are united by what is called the foramen ovale, an open hole.

13.—Valves of the Heart.

The entrance and departure from each of the ventricles of the heart, are supplied with valves or membranous substances which close them whenever the blood attempts to return whence it came.

"Between the right auricle and ventricle, is a tendinous ring, from the whole margin of which a circular membrane arises and forms three triangular or tricuspid valves, which, when shut and applied to each other, completely prevent the blood from flowing from the ventricle into the auricle. The *cordæ tendinæ* small, strong cords, attached to their margins, keep them directly transverse when shut." "Between the left auricle and ventricle, is a circular margin from which the valve rises membranous, and is divided into two portions, which, when shut, are adapted to each other, and close the passage." The mitral valve has all the apparatus of the tricuspid valves; but one portion is considerably larger than the other, shutting the mouth of the aorta when the valve is open and the blood is flowing into the left ven-

tricle ; and when the regurgitation of the blood, shuts the two portions of the valve in order to prevent the reflux into the left auricle by the contraction of the ventricle, the blood is propelled into the open aorta." "At the beginning of the pulmonary artery and of the aorta, the places of egress from the right and left ventricles, are placed semi-lunar valves consisting of three membranous portions, each of which is semi-elliptical and adheres to one third part of the internal circumference of the artery ; the other edge is loose and thicker, having a hard corpuscle (little body), in the middle. When these three portions are shut, they prevent the reflux of blood into the ventricles, during which they are convex toward the ventricle and concave toward the arteries."

It is by the contractions and relaxations of the heart and its auricular appendages, that the blood is propelled from the right ventricle to the lungs ; thence invited into the left auricle and ventricle, thence propelled into every portion of the system, and thence partially invited to the right auricle of the heart again, constituting what is commonly called the circulation.

From the preceding view of its structure, it is very evident that the heart may become so debilitated by disease, that it can not entirely contract, and that the valves, from the same cause, may close but imperfectly ; hence, in the first instance, the blood will be thrown with less force ; and, in both cases (which generally if not always co-exist), it will be thrown in less quantities at a pulsation, some of it remaining in the cavities or returning through the valves. In this case the pulsations will be soft and feeble and often interrupted ; and, by putting the ear on the left breast, a rattling may be heard similar to water wasting through a false gate. By the regular faculty, the contraction and thickening of the walls of the heart, is called a hypertrophy, from *uper* above, and *trepheo* to nourish, which, at last, is nonsense. In fact, the term is designed to signify almost any unnatural condition of the heart, to excuse the ignorance of the practitioner, and to hide the evil consequences of his pernicious practice. I have never met a case of it where bleeding and poisoning had not first paved the way.

The heart and its appendages, are also subject to various other affections, called dilatation, softening, hardening, ossification, polypus, intercommunication of the ventricles, angina pectoris, etc. ; but, as the symptoms of these various affections, are altogether uncertain, and, as all must be treated on general principles, their particular description is of no practical utility. If you desire to see a formidable list of them, and to be told what is not true, that "they are always fatal," I refer you to the various works on the practice of physic, by the regular faculty, assuring you that the practice I advocate and defend, has cured many a case to which several of these formidable names had been applied by sundry very erudite members of that school ; cured too, by men who knew not whether the heart or the liver was affected.

14.—Arteries.

From the ventricles of the heart, issue two tubes resembling the entire bark of a tree after the trunk has been withdrawn by the root. These tubes consist of three fibrous coats ; a thin, outer, longitudinal, a thick, intermediate, circular and muscular, and an internal longitudinal, very thin and smooth.

These coats are elastic and very strong, those of the left being thicker and stronger than those of the right. By their contractions and expansions, they aid the heart in distributing the blood through the system. Each artery has

but one set of valves in its whole course, and that is seated close to the heart. That which leaves the right ventricle of the heart, passes to the lungs, and is called the pulmonary artery. That from the left, called the aorta, gives off immediately, one branch to the heart called the coronary artery, and then divides and sub-divides, until it finds its way into every other portion of the system, its branches diminishing in size until they terminate in the veins, in capillary vessels, in glands or follicles, in cells, or are lost in the interstices of the ultimate molecular formations of the flesh. They frequently anastomose with each other.

They are liable to sundry affections, cartilaginous and bony formations; to diminution of their size and elasticity; to local enlargements called aneurisma, etc.; but these, except the last, are never the subjects of surgical operations. In the healthy body, they pulsate; and in the dead, they are generally empty and white.

15.—Veins.

Continuous from the arteries, or commencing on the surfaces, or in the cellular substance where the arteries are dispersed, we see a reversed system of vessels called veins, which commence like the branches of a river and run toward the heart, uniting and enlarging as they go, until they enter a kind of sac called the right auricle, from which is a passage into the cavity of the heart called the right ventricle. One of the arteries soon separates into two branches, which convey a dull purple fluid called the blood, to a couple of elastic and extremely vascular organs called the lungs, where it undergoes the sensible change to a bright red color. The veins that commence in these organs, take it up and return it to another auricle, whence it descends into the left cavity of the heart which, by its contractions, aided by the valves, throw it through the other artery all over the system. Here again, the veins take up what may not be lodged for useful purposes, or eliminated from the system, and carry it back to the heart. This course of the blood from the right cavity of the heart to the lungs, thence back to the left cavity of the heart, thence to every portion of the system, thence back to the right cavity of the heart, is called the circulation.

The arteries have three triangular valves at the root, which open toward the extremities and shut toward the heart. The veins have similar valves at the mouth of their branches, in all parts of their course, which open toward the main trunk, and shut toward their extremities. They are by no means equally distributed, some veins and parts of veins being nearly destitute of them, others plentifully supplied. Nor are they always double, or capable of being completely closed. Nor are they very numerous in the veins that are less than a line in diameter when distended. Hence the contractions and expansions of the cavities of the heart, effected by the elastic walls of that organ, aided by the closing on the venous side and opening on the arterial, produce the passing of the blood through the system, already termed the circulation.

The veins "are long membranous canals which continually become wider, do not pulsate, but return the blood from the arteries to the heart. They all originate from the extremities of the arteries only, by anastomosis [?] and terminate in the auricles of the heart; that is, the vena cava in the right, and the pulmonary veins in the left auricle. They are composed, like the arteries, of three tunics or coats which are much more slender than those of the arteries, and are supplied internally with semi-lunar membranes, or folds called valves." These are placed in pairs at irregular distances, so as to

close toward the heart and open toward the origin. All the veins of the extremities and of deep muscular parts, have numerous valves; but those of the cranium, thorax and abdomen, except three, have none.

The pulmonary veins commence in every portion of the two lobes of the lungs, unite, enlarge, and approach each other, until they meet in one tube which enters into the left ventricle of the heart.

These organs too, are liable to enlargements and contractions, particularly to a filling up of their cavities, constituting a form of disease called phlebitis, most formidable to the mineral faculty, but one which we can cure by our general treatment.

16.—Lymphatics.

Commencing like the veins, in all parts of the body, is another system of vessels that constantly unite, and run toward the heart, until they finally form two common tubes, one entering the left and the other the right subclavian vein in its angle of union with the jugular. Those from the lower extremities form in the lower part of the abdomen a common tube called the thoracic duct, which passes up through the abdomen and thorax, receiving the lacteals as it ascends, and empties its contents into the left subclavian vein as above mentioned. Those lymphatics that rise in the upper parts of the body, open into the right subclavian. By those veins, their contents are all cast into the left side of the heart, and thence into the lungs. The lymphatics have valves in great numbers, scattered through their whole course, by means of which and the contractions and relaxations of their coats, they force the fluid they contain, to their destination.

Remark.—There is much difference of opinion among anatomists and physiologists, about the origin and uses of the lymphatics. Some maintain that they arise on all the surfaces, external and internal, as well as in the parenchymatous or cellular portions of the system; and that they absorb or take up all kinds of offensive or morbid agents, and carry them to the blood. Others say that they rise only in the cellular substance, among the arterial capillaries, take up only those vitalized particles that are not deposited in the course of the circulation, and carry them to the heart, to be sent the rounds again. They do not admit that any crude, morbid or worn out matter enters into the lymphatics (see Dr. Gallup). They ascribe this menial employment to the radicles of the veins, and they call no vessels lymphatics that do not enter into the two tubes above mentioned, which open into the right and left subclavian veins in the angle of their union with the jugulars.

17.—Glands, Follicles, Secernent Surfaces, Arterial Capillaries.

For the purpose of elaborating from the blood, certain fluids necessary to the various operations of the system, or to be discharged from it, there are situated, in different parts of the body, particular structures, called glands. They consist of an artery with its numerous ramifications; a vein formed of its numerous radicles, a lymphatic composed of its infinitude of fountains, a system of vessels, like the veins, commencing in all parts of the organ (except perhaps its surface), running together, and ending in a duct by the name of the organ; as the parotid ducts, the submaxillary, the sublingual, the hepatic, the pancreatic, the renal, etc., and lastly, of a ramification of nerves from the center of organic life, which is supplied with its own system of arteries, veins and absorbents, and mostly covered or inclosed by a serous membrane.

In some parts of the system, small sacs called follicles are imbedded in the membranous coverings, and in these are deposited by the capillaries of the arteries, peculiar fluids, as mucus, oil, etc., for the use of the system. In other parts, the capillaries discharge these fluids at once on the surfaces, as the mucus into the alvine canal, the serum into the abdomen, and the perspiration through the external surface.

18.—Salivary Glands.

The common integument of the body is folded into the mouth where it becomes very thin, is covered with fine villi, and constantly moistened by saliva and mucus. The saliva is secreted by the parotid glands, two oval bodies, situated "between the ear, the mastoid process, and the angle of the lower jaw; extending upward to the zygoma, and forward, covering part of the masseter muscle." From the upper and fore part of these glands passes a common secretory duct called the parotid, which enters the mouth through the cheek, between the second and third double teeth of the upper jaw. "The submaxillary gland is smaller and rounder than the parotid, and situated on the inside of the angle of the lower jaw. Its common duct arises from its upper and fore part, passes forward and opens into the mouth on each side of the string of the tongue (*frænum linguae*), behind the two front teeth. The sublingual gland, is of a long, flat and somewhat oval form, situated under the anterior part of the tongue near the inferior maxilla, is covered by the skin of the under side of the tongue, and its ducts are several, about half way between the attachments of the tongue and the gums.

From these several glands, any movements of the mouth, or stimulating substances, and even the sight of them, as apples, sugar, cider, etc., produce a copious discharge of the slimy fluid called saliva. Its use is to moisten the mouth, facilitate the motions of the tongue, the mastication of dry food, and deglutition, and to aid digestion. Its constituents are water, albumen, mucilage, muriate and phosphate of soda, lime and ammonia. A sound state of these glands is indispensable to the health of the general system.

19.—The Tongue

Is a compound muscle or bundle of muscles, the principal organ of speech and of taste, and has a considerable share in deglutition. Its cuticle forms sheaths which include the points of the papillæ; its mucous substance is thicker and more moist than that of any other parts of the body; its (*cutis vera*) true skin is very copiously supplied with numerous blood-vessels and nerves. Its largest papillæ are near the base and very prominent, ranged in two diverging rows, three or four in each, about half way between the median line and the margins of the tongue. The median are more numerous and scattered over the whole upper surface; and the villose are still more numerous and minute, and scattered over the whole surface, but more abundantly in the tip and margins of the tongue. Besides the salivary glands, the tongue is supplied with many mucous follicles, especially near its base.

The secretion of so much saliva, mucus, etc., will of course require a large supply of blood-vessels, and the various and delicate demands of taste will demand an equally abundant distribution of nerves, the extremities of which constitute the papillæ above mentioned.

20.—Taste

Is the sensation produced on the nerves of the tongue, by substances capable of being, in any degree, dissolved by the saliva. The sensation of roughness,

or smoothness of form, produced by substances not capable of solution, can not be considered taste. Experience alone can give us the first impression respecting the taste of any substance; as we can not know what is the feeling produced by sweet or acid substances, until we have tasted them. Then, having connected the proper name with each of these sensations, we are enabled to form an idea of the description of other articles, as sweet or sour; or by the association of appearance, as the sight of a lime and of a piece of sugar, excites the feeling of sourness and sweetness. It is the taste, that is, the experience of the tongue, that dictates to us the choice of food or drink; and it depends much upon the present state of these organs and those of the general system, what shall be the nature of this taste; for it is well known that the same article will taste very differently at different times; being sometimes craved, at other times loathed and avoided. Hunger and thirst, are the demands of the general system, as well as the particular apparatus, for whatever of food or drink is most needed at the time; and they not unfrequently call for the most appropriate medicines, as fluids in fever; and dumb animals are directed by their taste to the substances suitable to relieve their sufferings.

21.—The Velum Palati, or Palate,

Is a sort of partition, hanging double from the back part of the roof of the mouth, to prevent the fluids received, from passing into the nostrils, and to direct them into—

The Fauces, a term given to the narrow passage thus formed. The most pendulous portion or point of the velum (which is plainly seen on opening the mouth), is called the *uvula*. The outer arch of the palate is attached to the sides of the tongue; the inner arch, from which the uvula is projected, is attached to the sides of the pharynx.

Tonsils.—This name is given to two little bodies, one of which is situated between the arches of the palate, on each side of the fauces. They are reddish colored, oval-shaped glands which have several openings on their surface leading into cells freely communicating with each other. In health, they secrete a transparent mucus; but, when inflamed, they throw off a whitish slough. They, as well as the fauces and uvula, are very subject to inflammation, ulceration and suppuration. They are sometimes so much swollen that food and drink are swallowed with great difficulty if at all.

22.—The Esophagus.

This tube commences behind and below the palate, “descends in front of the cervical vertebræ, behind the trachea, between the layers of the posterior mediastinum, behind the base of the heart, and, turning slightly to the right, proceeds upon the fore and right side of the descending aorta, toward the lower part of the thorax; it then inclines forward and rather to the left, perforates the muscular portion of the diaphragm about the ninth dorsal vertebræ, and terminates by a short projection, in the left and upper orifice of the stomach, called the cardiac orifice.” It has four coats, a cellular, muscular, nervous and mucous or villous. The external or cellular coat, connects the muscular to the surrounding parts; the muscular consists of two layers of fibers; the external, longitudinal, which shorten the tube, and the internal circular, which contract its diameter. The nervous coat connects the muscular to the mucous or innermost coat, which is continuous from the mouth, and has many longitudinal plicæ or folds when the esophagus is collapsed, but is smooth when distended. The mucous coat consists of longitudinal fibers and is well lubricated with mucus.

The motions of the tongue, jaw and cheeks, roll the masticated food into balls and force it into the esophagus or throat, through which, by the extension and contraction of the muscular fibers, it is conveyed to the stomach.

23.—The Stomach

Is situated obliquely across the upper and back parts of the abdomen, in the left hypochondriac and epigastric regions. It is long and round, much larger toward the left extremity, tapering toward the right, and curved from end to end. Between the cardia, its left or esophageal orifice, and the pylorus, its right, is the smaller curvature; the larger extends along its inferior and anterior margin, from the left to the right extremity. Its large and left extremity is in contact with the spleen, and considerably higher than the pyloric extremity. This lies under the left lobe of the liver. Its superior part is in contact with the diaphragm, its inferior with the intestines. It is connected by the cardia to the esophagus, by the pylorus to the duodenum, by the peritoneum and blood-vessels to the spleen, by the peritoneum to the root of the liver and transverse arch of the colon, and by blood-vessels to the aorta and vena portæ. At the cardia, the esophagus binds it down firmly, but its body and larger curvature can rise up as it becomes distended with food, and form almost a right angle with the esophagus. The pyloric extremity is situated under the left lobe of the liver, on the right side of the vertebræ. It is lower, turned more forward than the cardia, and quite movable, so that it can be drawn toward the cardia by contractions of the longitudinal muscular fibers.

The stomach has four coats; the peritoneal, the muscular, the nervous, and the villous or inner; all bound together by cellular substance. The peritoneum is reflected over the stomach as an external coat. The muscular which adheres to the peritoneal, is composed of two planes of fibers; the external is longitudinal, being a continuation of the esophageal. They extend from the large to the small extremity, and, collecting on each side of the small curvature, they form a strong, thick band. The internal plane has thick, strong, circular and transverse fibers. The nervous coat is composed of cellular substance, intermixed with a kind of nervous web or net-work. The inner or villous coat, is the same as the esophagus, except that it has a great many more prominent villi crowded with minute vessels. When the stomach is empty, the nervous and the villous coats are thrown into many rugæ or folds, in a waving, transverse direction, by the contractions of the muscular coat; but, when the stomach is full, the rugæ disappear. These rugæ support the vessels and nerves dispersed in them, and, in moving the food about in the stomach, promote the flow of the gastric juice, etc.

At the cardiac orifice, there is no proper sphincter, but the muscular fibers are so disposed in various sections around it, and the end of the esophagus so projects into the internal cavity, that nothing can return from the stomach toward the mouth, even were the head turned down, except by vomiting.

The two innermost coats of the stomach form a large, circular ruga or fold, which includes a bundle or band of muscular fibers constituting a ring that projects into the internal part of the passage, and is called the sphincter pylori. This contracts and completely shuts the passage from the stomach into the duodenum, except directly after the food is digested, when it relaxes and lets it down.

The principal arteries of the stomach, are, the superior gastric, a branch of the celiac; the right inferior gastric, sent from the hepatic; and the left

inferior gastric, sent from the splenic; the arteriae breves, from the splenic are dispersed upon the left extremity of the stomach, and branches from the hepatic are distributed near the pylorus.

The veins have their names from the arteries, follow their course, and terminate in the vena porta.

The venous absorbents of the stomach are both numerous and large. They take up no chyle, as that is not found in the stomach; but they receive water and other fluids, and transmit them immediately to the veins and the heart. When the system is burning with fever, and very thirsty, the water drank very seldom descends through the pylorus, but enters the blood immediately in this more direct way; a wise and benevolent provision of the Great Architect of nature, for the prompt relief of the body in fevers, etc.

24.—The Gastric Juice

Is a fluid secreted by the arterial capillaries that pierce the villous coat. It is limpid and somewhat similar to saliva, possessing very powerful anti-septic and solvent properties. There is seldom much of it free in the stomach. It appears, by the observations of Dr. Beaumont, who was permitted to inspect its operations through an aperture in the side of San Martin, that it is secreted powerfully by the proper vessels just at the time the food comes in contact with the stomach. As the blood constantly flowing through the stomach, is all equally capable of giving out any secretion, and, as digestion is going on not half of the time, it would seem that the gastric juice must be constantly accumulating and reserved in some kind of cells or vessels for that purpose. This shows the great impropriety of eating too much; for, it is evident that, even in health, if more food is taken at a time than there is gastric juice to dissolve, some of it must pass down undigested and become a source of much irritation and injury to the bowels. In sickness and debility there is less gastric juice secreted than in health; of course the quantity of food taken should be proportionately diminished. To suppose that the digestive apparatus of a sick man, can make a profitable use of a full meal for a well man, is as absurd as to suppose that the muscular apparatus of his arms and legs, or the nervous of the brain, can do a full day's work. These powers in the sick man, are as soon exhausted as any other; of course the duties assigned to them must be proportionably light. The too prevalent notion then, that a person, sick or well, may eat as much as he wants, that is, until his appetite is satisfied or his stomach is full, is a most pernicious doctrine that destroys many a life. It is a fact that a little food, well digested, will sustain health and vigor; and that, if but little is taken, it will generally be well digested. Don't eat too much—eat those articles that, by long trial and careful observation, you find best to agree with you, but, I repeat it, don't eat too much.

25.—Intestines.

The long internal tube that proceeds from the stomach downward through the body, is called the intestines, or the alvine canal. Its different portions have received different names. The first ten inches or so, is called

The Duodenum.—It makes three turnings. Between the first and second of these, it receives, generally united, sometimes at a little distance from each other, the ductus choledochus communis, or bile duct from the liver and gall-bladder, and the pancreatic duct. Here the bile and the pancreas are mingled with the chyme, and chylification is chiefly performed. These ducts open generally from two to three inches below the pylorus. It has a

partial coat from the peritoneum, besides the three already described in the stomach, of which it is the continuation.

The Jejunum commences in the umbilical region where the duodenum ends, and is everywhere covered with red vessels. It is constituted like the duodenum, except that it has a complete peritoneal coat, and extends to the hypogastric region, where it comes to a portion more pallid, called

The Ileum.—This occupies the hypogastric region and a part of the pelvis, and terminates in the cæcum, by a transverse opening called the valve of the ileum or cæcum. With respect to its coats, vessels, etc., this part is constructed like the jejunum. Thus far the internal tube is called *small intestines*.

The Cæcum.—This portion of the intestines is about four inches long, and firmly tied down in the right iliac region, having attached to it a long slender appendage called the vermiform or worm-like process. Then commences the great intestine called

The Colon.—This ascends toward the liver, passes across the abdomen, under the stomach to the left side, where it is bent like the letter S; hence the colon has an ascending portion, a transverse arch, and a sigmoid flexure. When it reaches the pelvis, it is called

The Rectum, because thence it proceeds nearly in a straight line to the external orifice of the body

26.—Structure of the Intestines.

The large intestines, like the small, have their three coats and a duplication of the peritoneum; but their structure is somewhat different. Their longitudinal, muscular fibers are principally gathered into three parallel, distinct bands, which contract the tube in such a manner as to leave the thinner portions loose, forming sacks or trays resembling the thin portions of bullate leaves in plants, as in some cabbage-leaves. Instead of these bands, the small intestines have their internal coat gathered up into folds reaching only a part of the way round, and their points alternating with others of similar form. They are hence called *valvulae conniventes*. They commence in the duodenum, and are most numerous and prominent in the ileum and jejunum. These valves and sacs much increase the internal absorbing surface of the intestines, and arrest the progress of their contents until all the chyle is absorbed. The internal or villous coat of the intestines, is formed chiefly of the fine terminations of arteries and nerves, and the origins of lacteals and veins, united by cellular tissues.

An infinite number of minute absorbents, called lacteals, commencing in the duodenum and ileum, becoming most numerous in the jejunum, and more sparse in the large intestines, pierce the muscular coat of the intestines all round, unite and reunite, until they form, with the lymphatic, arteries, veins and nerves, a common net-like layer on one side of the intestines, which, with the intestine itself, is covered on both sides by a fold of the peritoneum called the mesentery, mesocolon and mesorectum, proceeding from the vertebrae of the loins, and forming a circular plane of which the intestines are the circumference. Near the spine is situated a strong tube about the size of a small goose-quill, called *the Thoracic Duct*.

27.—The Thoracic Duct

Is formed by the union of the lymphatics of the lower extremities, ascends in front of the spine and opens into the left subclavian vein in the angle

which it forms with the jugular veins. In their passage from the intestines to this duct, the lacteals continually unite and grow larger, every now and then forming knots of doublings and windings covered by membrane, in which it has been supposed that some further digestive process is carried on, but of this we know nothing. They are called lacteal or mesenteric glands. As they approach the thoracic duct, they increase in size and diminish in number, as do also the lacteals and lymphatics that pass through them.

The lacteals and lymphatics of the mesentery, are abundantly supplied with semi-lunar valves which prevent their contents from returning into the alvine canal, and aid the vermicular motion of the vessels in forcing their contents to the thoracic duct. Sometimes five or six of these are discovered in the distance of an inch, and they produce a knotty appearance like grains of wheat in lines.

28.—Pancreas.

Situated across the spine, behind the stomach, before the aorta, vena cava, part of the splenic vessels, and the edge of the transverse part of the duodenum, is a flat, conglomerate gland, six to eight inches long, somewhat resembling the tongue of a dog, of the color, consistency and structure of the salivary glands. It is called the pancreas. Its right extreme is attached to the duodenum, its left to the spleen, its body to the duodenum, aorta, vena cava and spine. It is covered anteriorly by the part of the peritoneum called the mesocolon. It is composed of a number of lobules, from each of which arises a small duct, uniting with others and forming the common pancreatic duct. This enters the duodenum about two or three inches below the pylorus of the stomach, generally in connection with the gall duct, sometimes at a little distance from it. The use of the pancreatic juice is little known. It resembles the saliva in appearance and chemical properties, and is supposed to take a part in the digestion of the food.

29.—The Liver.

"The liver is a large, dense gland, of a dusky red color, situated immediately under the diaphragm, and extending toward the margin of the thorax." It is chiefly on the right side of the spine, only a small portion extending to the left, by the side of the stomach. "It is convex and very smooth on its upper surface, where it is opposed to the diaphragm, though a little flattened on the upper part of its left side, where it is placed opposite to the heart. It is irregularly concave on the under side where it rests on the stomach and intestines, and is perforated by several large blood-vessels. It is thick on its right and posterior part, and becomes gradually thinner toward the left side. It is obtuse or blunt on its posterior edge, and acute or sharp on its anterior." It is divided into lobes, two of which, the right and left, constitute the principal part of the organ. The others are small and placed underneath these. The great lobe rests on the pylorus, colon, and top of the right kidney. The small one is placed almost horizontally, and chiefly in the region of the stomach. Upon the under side of the liver are several fissures. The principal is between the two large lobes, where are situated, two small lobes, one before and the other behind, in such manner as was fancied by the ancients to resemble a gate, hence called porta. The vein that enters the liver in the fissure thus inclosed, is called vena porta, or gate vein, and the passage of the blood through it is called

The Portal Circulation.—I have said that the veins all run toward the heart, uniting as they go, etc. To this, there is an exception in those that

pass from the stomach, pancreas, spleen, mesentery and rectum. Those veins all unite to form one common tube, called as above, the *vena porta*, which, instead of going into the *vena cava* and the heart, plunges into the liver, and there ramifies again, like an artery, into an infinitude of branches, extending to all parts of the organ. And now, after the biliary ducts, which commence like veins, have secreted from the blood the bile it affords, another set of veins absorb it and carry it to the right auricle of the heart. The biliary ducts, by their absorbing radicles, take up or elaborate the bile, and carry it through the cystic duct, into the gall-bladder, from which it is afterward poured forth into the duodenum, as occasion requires.

The gall-bladder is a small, oblong, pear-shaped bag, situated upon the concave side of the great lobe of the liver, in a transverse direction from behind forward. The whole length of its side is attached to the liver, by blood-vessels, lymphatics, nerves, and cellular substance. The duct from this sac, called the *systic duct*, and that from the liver, called the *hepatic duct* (from *hepar*, the Greek name of the liver), unite and form the *ductus choledocus communis*. This duct generally unites with the pancreatic duct just before it enters the duodenum, into which it pours the bile.

By a retrospective view of the digestive apparatus, we perceive that our food is first taken into the mouth, through the influence of our experience or our associations. It is here masticated and mingled with saliva which prepares it for deglutition, and doubtless for the more ready action of the gastric fluid. By the combined action of the cheek, tongue, etc., it is thrown into the esophagus, and, by the muscular contractions of that organ, it is conveyed to the stomach. Here it meets with the gastric fluid, which has the power to reduce it, ordinarily in three or four hours, to a homogeneous mass called chyme; the process of which is generally termed chymification. The pyloric sphincter now relaxes and lets it down into the duodenum where it meets with a very bitter, deep green fluid called the bile, and another much resembling saliva, called the pancreatic juice. These fluids produce still further changes on the chyme, and divide it into fecal or excrementitious matter, or the part unfit for animalization, and a nutritive portion called the chyle, which is absorbed by the lacteals and carried through the mesenteric glands, to the thoracic duct, and thence into the veins near the heart.

30.—Spleen.

The spleen is a soft, very vascular substance, of a purple color, a long oval form, and a variable size, situated between the large extremity of the stomach and the false ribs, the lower end being behind the colon and over the top of the left kidney. It is composed of blood-vessels, lymphatics and nerves, united by cellular membrane. The former are among the largest in the body, in proportion to the size of the organ in which they are dispersed or originated. Though called a gland, no excretory duct from it has been discovered, a fact which has led to various conclusions respecting its use. That which appears the most plausible to me, is, that it serves as a reservoir for the blood that may be designed for the secretion of bile in the liver, but not received into that organ so fast as furnished by the splenic artery. (See portal circulation).

31.—Kidneys.

The kidneys are two dense glands, shaped like a kidney bean, five or six inches long, and situated one on each side of the spine just below the diaphragm, the right a little lower than the left. They lie between the ribs and

the peritoneum. They are furnished from the descending aorta with two sets of arteries, one to nourish their substance, and another to carry into them the blood from which the urine is to be secreted. They have also veins to absorb this blood again and carry it to the ascending vena cava. They are abundantly supplied with lymphatics and sympathetic, or splanchnic nerves, termed the nerves of organic life. Besides all these, they have, in all their substance, the radicles of the duct called the ureter, which secrete the urine and carry it by the ureter, a tube about ten inches long, from each kidney, into the bladder, where it enters obliquely through the laminæ of that organ near the neck. The urine is regularly excreted by the kidneys, and carried into the bladder, which is nothing more nor less than a reservoir to contain it until it may be convenient to void it. And here it can not be too strongly impressed upon the mind, that it should never be retained one minute, night or day, after nature calls for its discharge. Strict attention to this remark will prevent the gravel, and all the evils attendant on that distressing form of disease.

32.—Mesenteric or Conglobate Glands.

These are small bodies, in great numbers, situated between the folds of the peritoneum, constituting what is called the mesentery, that envelops the intestines and confines them to the spine. They are very minute near the intestine, and increase in size and diminish in number, toward the spine, until some of them become as large as an almond, which, in shape they somewhat resemble. The structure of these glands is not so well understood as that of the salivary, renal, etc. Lacteal vessels enter them in great numbers, and pass out of them in smaller numbers and greater size. It is supposed that they are united and many times folded within the glands. Their substance much resembles that of the kidney. Different opinions are also entertained by physiologists respecting their office.

Thyroid Glands.—On each side of the thyroid cartilage, near the esophagus, is situated a large gland resembling others in general appearance, but without any visible duct; therefore its use is not known.

Thymus Gland.—This is situated under the upper part of the breast-bone, between it and the folds of the mediastinum. It is large in infancy, and nearly obliterated in the adult. No duct discovered, and use unknown.

Bronchial Glands.—A number of little glands similar in appearance to the mesenteric, are found near the bifurcation of the trachea, but for what purpose is not known.

Mammary Glands.—The breast of the female needs no description here. Its situation and use are known, even to instinct. Like other glands, it has its system of blood-vessels for self-nutrition, and its extra system for lacteal secretion.

There are many other glands along the neck, in the groins, and other places, that secrete fluids useful to the parts where they are found, but which it is unnecessary to mention here. I refer to works on anatomy.

Follicle.—This term has been given to a little mucous or oily bag, situated in various parts of the body, surrounded with cellular membrane and having a proper duct through which it discharges what its membrane extracts or elaborates from the blood. In the mucous membrane of the nose, tongue, fauces, trachea, stomach, intestines and bladder, they are called mucous follicles; those in the ear and cheek, and all others secreting an oily substance, are called sebaceous follicles. Sometimes the simple follicles are found in clusters, the ducts of some entering those of others; they are then called

aggregate. When they all enter one duct, as from the liver, the pancreas, etc., they are called conglomerate. The lacteal or mesenteric and lymphatic glands, are called conglobate.

It is exceedingly important that all the glandular systems be in a proper state; for, without this, there is no such thing as health. Health consists in a proper balance of all the functions of the body, and these functions consist almost entirely in absorption, circulation, secretion, and excretion. Of the nature of these functions and the means of regulating their action, we can not know too much.

33.—Regions of the Body.

The Cranium.—The great internal cavity of the head is called the cranium. It is divided into an upper and anterior region, called the cerebral, and a lower and posterior region called the cerebellar. It is also divided into right and left portions called hemispheres.

Cervix.—The portion of the man between the head and the ribs, is called the cervical region.

The Chest or Thorax.—The portion of the cavity of the body included between the sternum or breast-bone, the ribs and adjacent vertebræ of the spine, is called the chest or thorax. It is divided into right and left cavities, between, before and under which, is another region including the heart and called the cardiac region.

Abdomen.—The region beneath the chest and above the pubic or front bones at the lower part of the body, is called the abdomen. That portion of it which lies under the costo-sternal (or rib and breast-bone) cartilages, is called the hypochondrium. The right contains the most of the liver, and the left the stomach, spleen and pancreas. The portion next below these and beside the spinal vertebræ that has no ribs, is called the lumbar region, and contains the kidneys. The portion below this and between the haunch or iliac bones, is called the iliac region, and contains that portion of the intestines called the ileum. That below the iliac region and within the lower basin-like bones of the body, is called the pelvic region.

34.—Septi or Partitions.

A thick, strong membrane constituting the internal lining of the skull-bone or cranium, is called the *dura mater*. A fold of this membrane, called the septum medium, divides the brain into right and left hemispheres. Another fold called the tentorium, stretches from the ear to the posterior point of the skull-bone, and divides this organ into an upper and anterior portion called the cerebrum, and a lower and posterior portion called the cerebellum.

The Pleura.—The internal lining membrane of the chest is called the costal pleura. The continuation of this membrane over the lung is called the pulmonary pleura.

The Mediastinum.—The folds of the costal pleura, after passing before the spine are united at their backs by cellular membranes and thus pass forward under the name of mediastinum, to the sternum or breast-bone, dividing the chest into right and left cavities. These cavities are always completely filled by the two lungs.

Pericardium.—Between the laminæ or folds of the mediastinum on the right and left, the spine behind, the breast-bone and left costo-chondræ cartilages before, and the diaphragm below, is situated a distinct membrane enveloping the heart, and thence called the pericardium. It is attached to

the surrounding parts by cellular tissue, except on the upper part, where it folds over and envelops the body of the heart.

Diaphragm.—Attached to the lower end of the sternum, or breast-bone, the lower ribs and the neighboring portions of the spine, is a strong musculo-tendinous septum called the diaphragm, which divides the body into an upper chamber called the chest, and a lower called the abdomen. Its upper surface is in the pleura, and its lower the peritoneum, between which, from the circumference about half way to the center, is a thick deposition of strong muscular fibers.

The Peritoneum.—The membrane that lines the inside of the abdomen is called the peritoneum.

Mesentery.—That portion of the peritoneum that passes forward on each side of the spine, before the intestines, and on both sides of the lacteals, conglobate glands, large blood-vessels, etc., and as it were, shuts them out of the cavity of the abdomen, while in fact they fill it, is called the mesentery, mesocolon, and mesorectum, according to the division of the intestines which it envelops.

35.—Trachea and Bronchiæ.

Just behind the fauces, we observe a cartilaginous structure called the larynx or vocal box. It is composed of several pieces, two of which project upward in a semi-lunar form, one on each side of the passage into the wind-pipe, and a little distance asunder, for the purpose of admitting a free passage of air into the trachea or wind-pipe, below them. This passage is called the glottis. A third springs up before these, and, whenever we attempt to swallow, turns over backward so as completely to close them; thus preventing any thing but air from entering the passage, and directing food and drink into the esophagus. This valve-like shield is called the epiglottis. The passage from the glottis down to the first division, is called the trachea or wind-pipe, and is composed of an external, longitudinal, muscular coat, an internal mucous coat and an intermediate coat consisting of cartilaginous, horse-shoe like bands, reaching from the anterior side, where they are thickest and strongest, to nearly the posterior, where they cease, leaving only an elastic connection covered by the two coats just mentioned. These cartilaginous crescents keep the wind-pipe distended, and prevent its collapse, when the breath is inhaled. The two branches into which the trachea is divided, on entering the chest, are called bronchiæ. They continue to divide and subdivide, like the branches of a tree, retaining their internal, cartilaginous structure, until they end in small cells called pulmonary air-cells, finishing their extremities as the rind of an apple finishes the back of the peduncle on which it is suspended. This ramification of bronchial tubes, forms the basis of that peculiar structure called

36.—The Lungs.

The artery that leaves the right ventricle of the heart, immediately divides to the right and left and enters two large thoracic viscera called the lungs. These bodies are composed of arteries, veins, and the bronchial ramifications ending in air-cells, nerves and lymphatics, all united by cellular substance. The arteries and veins are of two kinds. The pulmonary artery goes from the right ventricle of the heart into all parts of the substance of the lungs, and diffuses itself into the membrane that constitutes the air-cells. It carries the chyle from the thoracic duct, and all the venous blood in the body, to the

lungs, to be changed to arterial blood. The bronchial artery is a branch of the descending aorta. It carries arterial blood for the use of the vessels and cellular substance of the lungs. The pulmonary veins bring the arterial blood from the lungs to the heart, and the bronchial veins bring the venous blood from the lungs to the vena azygos, or single vein, that runs up the spine and empties its contents into the superior vena cava. The lungs have also their lymphatics and nerves. They are so shaped as to fill exactly, when distended, the cavity of the body in which they are placed.

37.—Lungs, Liver, Diaphragm, Stomach, Intestines, Pelvic Viscera.

Having, in previous numbers, described these organs and indicated their special offices, we are now prepared to consider the importance of their full development and the disadvantages, yes, the folly and wickedness, of doing any thing to check their growth, and free and equal action.

The Lungs.—The object of the lungs is to afford surface for arteries and air-cells in quantities sufficient to bring all the blood in the body, in the space of a short time, to a vital contact with atmospheric air, which, in some way not yet well understood, is indispensable to the support of animal life. The most that is known on this subject, is, that the blood in the lungs parts with carbon, and absorbs oxygen from the air received into the cells; and, that the more pure the air and free and full the respiration, the more completely is the blood vitalized, and the health of the body sustained. The process of breathing, then, is indispensable to health, and therefore it is, that any affection of the lungs is so dangerous and fatal. The only reason why bronchitis or inflammation of the mucous membrane of the bronchial ramifications into the lungs, is so dangerous, is, that it destroys the power of that membrane to purify and vitalize the blood. The reason why tubercular consumption is so fatal is, it destroys the function of so much of the substance of the lungs, that the remainder does not contain enough that is healthy, to purify and vitalize blood sufficient to satisfy the demands of the system. Hence we derive the important lesson that any means calculated to check the growth of the lungs to their full development, that is, until they have an internal surface equal to all the wants of the body, must be as pernicious, so far as it goes, as bronchitis or consumption. Now it can not be doubted that the present female fashion of confining the growing body in corsets, prevents the proper shape and full development of the lungs, and that to a very great extent. It follows of course, that the organs thus misshapen and deficient, can not perform their office to an extent sufficient to sustain the health of the general system, or even its existence to a good old age.

More than this—it is an undisputed point that an organ, to perform its office well, must not only be fully developed, but must have free play and circulation. It follows then, that when, as is frequently the case, the lungs are suffered to grow to nearly their proper size before the corsets are put on, the compression of them into a smaller space, not only prevents the admission of air and blood into contact, but it prevents the circulation of the nutrient blood into the very substance of the organs. Hence, according to the universal law of the animal economy, that a free and perfect circulation of blood into every part, is indispensable to the preservation of its vitality, and the prevention of its mortification, this course of compression is extremely favorable to the lodgment of morbid obstructions, and the production of inflammation, tubercle, etc.

In the light of these facts, is it any wonder that bronchitis and consumption are so prevalent in the land?

But the objector will say that the corset wearers are not the only ones that die of bronchitis or consumption. I answer, a close vest, waistband, coat, etc., are cousins german to corsets, and entitled to a great share of the credit of premature deaths among the sterner sex.

The Liver.—I have just proved that a full development of every organ, and a free circulation in it, are indispensable to its healthy action. But the compression of the chest and abdomen, by corsets, close waistbands, vests and coats, prevents the growth and proper action of the liver, as much as it does those of the lungs. This organ lying in the middle of the body, is directly encompassed by those abominable compresses, its circulation is impeded, and morbid agents are lodged in it. The extra effort of the organ to remove obstructions, produces "pain in the side," and the fruitlessness of that effort is denominated "liver complaint;" medicines are given to force the liver to an action which it would produce and continue of itself, were it not prevented by artificial restrictions. Do you doubt the truth of these assertions? Ask your old grandmothers, who were so unfortunate as to have grown up before the refined fashion of lacing was known, and the women who labor in the field in Europe and America, what they think of the "liver complaint," and you will be satisfied that it is quite an artificial disease, that may be acquired or prevented at pleasure, but which, having its foundation most commonly in deficiency of development, is not very easily cured.

Again I ask, is it wonderful that feeble constitutions and frequent sickness should follow the wearing of corsets?

The Diaphragm.—There is no organ of the system that is more permanently injured by compression by corsets, etc., during its growth, than the diaphragm. By the compression of the small ribs together, and of the sternum or breast bone, toward the spine, the space intended for the occupancy of the diaphragm is greatly diminished, so that the radial fibers of this organ are relieved from the necessity of growing to their full length. Being bounded at the extremities by the unyielding corsets, they are never put to the stretch by any exercise of the body, nor even by the extension of the chest or the stomach within. Consequently they grow thick, strong and short, so as to admit of very little contraction and extension or of ascent and descent in respiration. If, therefore, the lungs were well formed, this contracted state of the diaphragm would not admit of an extension of the chest to a capacity sufficient to inflate their cells with air, or fill their arteries with blood. And if neither of these can be effected, it is not difficult to perceive that great mischief must be done to the general economy, by the contraction of the diaphragm. The abdominal muscles also suffer similar contractions, from the same causes. When the body is fully grown, and all these contractions become permanent, it is almost impossible to overcome them. Vapor-baths and lobelia, however, sometimes accomplish the work.

Respiration—The Stomach and Intestines.—One of the most important objects of respiration, is the motion which is given to the stomach and upper intestines, by the contraction and relaxation, and consequent descent and ascent of the diaphragm, to which they are attached. In the act of inspiration, the diaphragm is brought down nearly to a plane; in expiration it ascends high into the chest, and thus produces a regular motion of the stomach, which is found by experiment, to be very essential to the digestion of food. But the constant contraction of the diaphragm to its smallest dimensions, prevents either further contraction or greater expansion, and of course the ascent and descent of the stomach on expiration and inspiration. Here is another mode of obstructing the free action of the vital organs, which is a

fruitful source of indigestion, misery and death. The lower parts of the chest not being permitted to expand, persons guilty of the sin of obstructing its action may be known by their breathing at the top of the chest, chiefly elevating the clavicle and upper ribs, instead of expanding the whole chest and abdomen, as is done in a well grown, unobstructed and healthy body. Such persons are very quickly exhausted by rapid exercise. They tremble with weakness at the knees and other joints, pant, and palpitate at the heart, flush at the face, and experience fullness in the head, sometimes vertigo, etc. But further:

Pelvic Viscera.—The artificial reduction of the cavity of the body by binding ligatures around its middle, forces the bowels upon that portion of the peritoneum that forms the base of the abdomen, and produces displacement of those organs, derangement of their functions, and much sickness and suffering. It also produces pressure upon the nerves and blood-vessels of the lower limbs, obstructing the sensation and circulation of those parts; hence numbness, dropsical swelling of the legs and feet.

Summary.—Though I have only glanced at the blessings of Corsets & Co., I have clearly shown that they prevent digestion and absorption, by checking the motions of the stomach, liver, pancreas, etc.; circulation to the lungs, by collapsing the extremities of the pulmonary arteries; vitalization of the little chyle that is formed, by excluding the air from the bronchial cells, and finally, nourishment of the *whole system*, by returning imperfectly vitalized blood to the lungs to be sent to every part and organ that composes it. This is a series of mischiefs that act upon the constitution, so much in the manner of compound interest upon the pecuniary capital of the borrower, that, so far from being surprised that so many persons are carried prematurely to the grave by this most injurious of all fashions and follies, the wonder should be that any who follow it to any considerable extent, escape very early destruction. Still, so determined seem its votaries to follow it at all hazards, that many physiologists despair of any correction of the evil. I am of a different opinion. I do not believe that the best portion of creation, first in every work of reform, will so ruin themselves with their eyes open. “Truth is mighty and will prevail,” and that too, more rapidly and extensively over women than men. The fault has been that they who know these evils, have not been faithful to their obligations, to make them known. Let but half the truth on this subject be proclaimed in the ears of the party most concerned, and the reform, compared with that with which men leave off their sling and toddy, their quid and cigar, will be as the swallow’s trackless flight, beside the snail’s polluted path.

Since writing the above, I have been extremely happy to find, in a very interesting work entitled the “Lady’s Annual Register, by Caroline Gilman,” a full sanction to the sentiments I have expressed, both as to the injuries of lacing, and the fact that *ladies* will be the first to abandon this vice, when they become acquainted with the evils that result from the practice. I copy the excellent verses on the subject, and respectfully advise all concerned to commit them to memory:

CROSS QUESTIONS.

DEDICATED TO THE LITTLE WAISTED LADY.

WHY do the ladies lace? ah! why
Indulge that graceless vice;
And make their forms deformity—
Their lives a sacrifice?

Why scare sweet health from out her home
 The roses from each face?
 Why haste their journey to the tomb?
 Why do young ladies lace?

Why do the girls tight lace? Why wear
 Straight jackets!—Are they mad?
 Is it for the "*distingué*" air?
 Pray, who can't *squeeze* and *pad*?
 'Tis very *cheap*—such "stay," or staff—
 It costs each wench (not meagre)
 Just *sixty-two cents and a half*,
 To sport the "*last French figure!*"

Why do the girls tight lace? They scorn
 A corset-wearing dandy:
 Are stays less wrong by women worn?
 The odds 'twixt gin and brandy!
 Both kill the body—soil the soul,
 Its priceless charms efface;
Corsets kill more than alcohol!
 Why do young ladies lace?

Why do young ladies lace? Why screw
 Themselves to bone and skin—
 Their outward *waists* make strange to view
 A desert *waste* within?
 Why squeeze their hips to awkward humps,
 Their bosoms out of place—
 Their shoulders square and high; (the gumps!)
 Why do the girls tight lace?

Why do the girls tight lace—and crush
 Their lungs to this no size?
 All artifice should make them blush
 If caught; yet men have eyes!
 Rouge! corsets! stuffing!—beauties grand;
Man wears his *Maker's* face!
 Was *woman* form'd by other hand,
 That she should dare to lace!

Why do the girls all lace? Not *all*;
 I see *true* forms pass by;
 Free, graceful, blythe, symmetrical—
 "Nature's nobility!"
 They worship not the tawdry queen
 Of Fashion—(ever base!)
 Foes to the frivolous, false and mean—
True LADIES don't tight lace!

Philadelphia, July, 1838.

CROAKER.

38.—The Nervous System.

On dividing the skull, neck and spinal marrow into right and left halves, it will be perceived that the brain consists of two portions; one large, above and before, called the cerebrum; and one small, beneath and behind, called the cerebellum. They are separated from each other by a fold of the *dura mater*, called the tentorium. It will be observed that each side is a counterpart of the other; that, from the cerebrum, proceed down the anterior of the cord of the neck and spine, two columns of nervous matter, and that, from the cerebellum proceed two other columns down the posterior side of the cord. All these descend from the head to the sacrum, dispersing themselves as they go, in branches to the right and left, and at the bottom. Between these

columns, on each side, and near the head of the spinal cord, called the medulla oblongata, will be seen another pair of nervous columns or tracks extending into the lower part of the cord and dispersing themselves like the others, in branches and twigs into the system.

By a great number and variety of experiments upon living animals, Dr. Bell and others have proved, beyond dispute, that the nerves of the anterior columns are distributed to all the voluntary muscles, and designed to produce voluntary motion; that those of the posterior columns are distributed to all the sensitive tissues and designed to convey to the brain all the impressions derived from the presence of external objects. These two arrangements are styled the nervous system of external relation.

By similar experiments, it has been determined that the two lateral columns of nervous matter are distributed to all the muscles employed in expanding the chest and abdomen in breathing and are hence called respiratory nerves, or nerves of respiration.

Cut the anterior columns in a living animal, and all voluntary motion ceases, while it breathes and feels; cut the posterior columns, and sense is gone; motion continues without any direction. Cut the lateral columns; respiration ceases and the animal instantly expires.

By carefully removing the bones of the spine from the cord that they inclose, it will be seen that each of the above pairs of columns sends out, to the right and left, twigs or tracks of nervous matter to different parts of the body. Those twigs that proceed from the posterior column, have, near their roots, little knots called ganglions, after which they are united in a common sheath with twigs from the anterior column. With these they proceed until they come to the places proper for distribution, when they separate, and the former are distributed among the sensitive tissues, the latter among the motive. These double twigs of nerves from each side of the spinal cord, are called pairs of nerves.

Again, seated principally among the abdominal and thoracic viscera, you will perceive large quantities of nervous matter, having only slight connections with the sensitive and motive nerves before mentioned. This system has many knotty appearances, formed by the unions and distributions of many fibers and bundles of fibers, which are again distributed to different parts. These combinations, intersections or distributions are called plexuses, and the whole structure is called the splanchnic or sympathetic nerve. It presides over all the digestive, absorptive, circulatory and secretive organizations.

The subdivisions of nervous cords do not resemble the branches of a tree in being parts of a solid trunk of nervous matter, but each ultimate subdivision is, through its whole track, from origin to distribution, root to point, independent both in structure and action, of every other that takes the same course, except that it may be bound in a part of its track, in the same bundle with others, and these fibers may be accumulated like the fibrils of the silkworm, until they make threads of various sizes even to the columns of the spinal cord, and the convolutions of the brain itself.

Lastly, within the cavity of the cranium, we have, in the anterior convolutions, what are called the perceptive and reflective nerves; in the superior and lateral, we have the moral, and in the posterior the affective, all which I denominate the intellectual and affective nerves. Through these systems of nerves the vital force governs all the actions of the body.

To recapitulate, then, we have five distinct systems of nerves:

1. The **SENSITIVE**, proceeding from the nose, the eye, the ear, the tongue and all the tissues endowed with feeling, and conveying impulses to the top

of the medulla oblongata which is called THE CENTER OF PERCEPTION, and thence to the convolutions of the cerebellum. These nerves make us acquainted with all external objects. They are the media through which we get all our *primary* information—our knowledge of things and actions.

2. The MOTIVE, proceeding from the same center of perception, and distributing themselves over all the voluntary muscles and the convolutions of the cerebrum, directing their actions to the pursuit of good and the avoidance of evil. These and these alone are under the direct and entire control of the will; therefore, for our actions and them alone are we entirely responsible. We are responsible for our perceptions and our faith, only so far as our actions can present the objects of perception and faith in their true character before us.

3. The RESPIRATORY, passing down the sides of the spinal column and distributed to the respiratory muscles. These are under the control of the will only through the superior power of the motive nerves to move or to quiet the structures to which they are distributed.

4. The SPLANCHNIC OR SYMPATHETIC nerve, lying mainly in the cavities of the chest, abdomen and pelvis, and distributed to all the organs of digestion, absorption, circulation and secretion. By some it is doubted whether even this system of nerves is distributed to the absorbents, as the lacteals, the lymphatics and the venous radicles, such distribution being rather inferred than discovered, and certainly demonstrated. They are often called nutritive nerves or nerves of nutrition. It is supposed that they receive the governing power of their sympathies from the cerebellum, which, it is said by phrenologists, controls the affective organs, particularly those of generation.

The perceptive and reflective; the intellectual and the moral nerves.—In the anterior and superior portions of the cranium or skull, are convolutions of nervous matter whose office is to perceive, reason and decide; and to dictate action to all others. These I call the intellectual and moral nerves. These five nervous structures or organizations, constitute the nervous system; for, though they perform offices so different, they have a final connection at the center of perception directly between the ears—the head of the medulla oblongata, the crura or roots of the cerebrum and cerebellum, a point at which all sensation centers and from which all voluntary motion proceeds.

REMARKS.—It has long been a subject of inquiry what is the modus operandi of nervous action? Some have supposed that the nerves are solid cords that vibrate, like the strings of a musical instrument? others that they are sheaths containing a subtle fluid that darts through them as electricity does through metallic wires; others that the motion is "undulatory," an expression which they have not yet explained. Others suppose the motion is that of electricity itself. My own opinion is, that it is based on the principle of elasticity. It is well known that, if any number of ivory balls be suspended in contact and in a direct horizontal line, and a blow be struck on the first in the direction of all the rest, all remain at rest, except so many at the other end as exactly equal the momentum of the blow. These fly off from the rest. If the blow be equal to one ball, only one ball flies off. Now it would be the same if the balls were confined in a tube, were the tube ever so crooked, as is proved by the hydrostatic balance of fluids in crooked water pipes.

I believe that the nerves are sheaths filled with extremely elastic globules of matter, and that the impressions or momentums communicated to one end are transferred to the other, not by the locomotion of the whole globule, but by the elastic spring of its center, while its sides remain in permanent con-

tact with the sheath that incloses it. If the impression be made on any of the intermediate globules, the result is the same. It is remarkable that, in whatever part of the nerve the impression is made, the effect produced is referred always to the extremity. A knowledge of the origin, direction and termination of the nerves, and the connection of the five different systems, is important, as it enables us more certainly to ascertain the seat and character of disease.

From this division of nervous structure and function, we learn how, according to the teaching of observation and experience, some of the departments, as the respiratory can be in motion and at rest, at very short intervals, periods ordinarily incapable of being protracted more than from thirty seconds to three minutes; how the digestive portions of the splanchnic nerves may and should rest for hours; how some of the secretive may rest indefinitely; how the motive must often rest for short intervals, and have constant rest, as in sleep, for nearly one third of the time; how the perceptive nerves are not and can not be deprived of a due proportion of rest; and, finally, that the common notion that the mind is always active, or in the common phrase, that we are always thinking, even when awake, is erroneous.

SLEEP is *entire* rest of the intellectual, the sensitive and the motive nerves.

DREAMING is *partial* rest of these systems. Strange images are brought to the mind of the dreamer by the irregular and alternate actions of different fibers of these structures, as discords in music are produced by the irregular unions of proper sounds; and fancy-pieces in painting by the union of chosen portions of various and numerous scenes. Permanent cessations of vitality in the sensitive nerves, constitute the disease termed blindness, deafness, numbness, etc. Their irregular actions during our wakeful hours, constitute delirium, etc. Inaction of the motive nerves constitutes that species of paralysis or palsy termed paraplegia, hemiplegia, etc.

39.—The Skin.

The external covering of the body, is called the skin. It is composed of a thin, pellucid, outer coat called the cutis or cuticle; a deeper seated, colored coat, called rete mucosum, and a still deeper, thick and strong coat called cutis vera, or true skin. To these, some add a distinct nervous coat, which is rather a ramification of nerves through them all, and also a cellular, which I consider a mere fibrous attachment to the substance beneath. In a practical point of view, the whole skin may be considered a dense, strong network, composed of the extremities of arterial capillaries, the ducts of sebaceous follicles, of venous radicles, and, at least, three sets of nervous fibers, the sensitive, the motive and the splanchnic, bound together by cellular substance, and covered by the cutis. The fact that the skin is a network, through which exhalations constantly take place, from the arterial capillaries, and sebaceous follicles; that so much material, good or bad, may be absorbed by venous radicles, and that so powerful an influence may be produced upon the whole system through its nervous tissue, shows how the derangement of any of its functions is sure to produce disease; and that the knowledge of these functions, and of the means and modes of their restoration, is of paramount importance in its prevention and cure. I may *almost* say: keep the skin clean and active, and do not eat nor drink too much, nor of that which is injurious, and you will seldom if ever be sick. And I may quite say that the vapor-bath is the best of all means for this purpose.

40.—Mucous Membrane.

The skin above mentioned, is folded into all the external orifices of the body, as the mouth, eyes, nose, ears, lungs, stomach, intestines, bladder, etc., in fact, into every cavity that has a direct communication with the external surface; but here, not being so much exposed to the action of external agents, it has no need of the cutis, nor of the pigment in the rete mucosum. Of course its external covering is very soft and pliant. It has also a muscular coat and cellular connection, like those of the superficial integument. Its structure of arterial capillaries, mucous follicles, glandular ducts, venous radicles and nervous projections, is also similar to that of the skin, and merits the same physiological remarks. Its most extensive surfaces are those of the lungs and the intestinal or alvine canal, the former of which is supposed to be greater than that of the whole external surface of the body.

The healthy or physiological office or function, of this membrane, is to furnish from the blood, a fluid called mucus to lubricate its own surface, and protect it from the action of materials taken into the system. The mucous membrane and the external surface of the body, seem to be a counterpart of each other. Anatomists describe it as "a mere folding or doublature of the skin, designed to perform nearly the same offices." If the action of one is suppressed, the other immediately commences the performance of its office; thus a cold, which closes the skin, immediately stops the perspiration which is now forced through the mucous membrane, producing inordinate discharges at the nose, eyes, lungs, bowels, etc.; hence, if commenced immediately, the relaxation of the skin and the restoration of its function, is all-sufficient to cure these forms of disease. So, when great derangements of the mucous membrane exist, an excessive and debilitating perspiration succeeds, and the reversion of this, is the cure of the disease.

41.—Serous Membranes.

Besides the external covering of the body, and the mucous membranes of the internal cavities that communicate with the external surface, there are other smooth lining membranes, as the pleura, peritoneum, etc., that have no direct communication with either the internal or the external surface, but seem to be a sort of intermediate division between them.

These membranes are liberally distributed in all parts of the system, lining muscles, tendons and tendinous sheaths, the ends of movable bones, the coats of blood-vessels, nerves, etc., in fine, wherever there is need of the protection of parts against injuries from friction. They secrete from the blood, a glairy fluid called serum, for the purpose of affording this protection. The excessive discharge of fluids into the cavities lined by these membranes, constitutes the forms of dropsy called hydrocephalus, hydrothorax, ascites, synovitis, etc.

PRINCIPLES OF VITALITY.

1.—The Human System,

As we have seen, consists of bones, cartilages, ligaments, muscles, tendons, cysts, sacs or bags, tubes, glands, nerves, adipose or fatty matter, membranes, etc.

These are all composed of a few elementary principles, chiefly carbon, oxygen, hydrogen, nitrogen, lime, phosphorus, etc., (see *Organic Chemistry*), which are formed, first into molecules or animal elements, next into tissues and then into the various organs of the system, as described in the previous propositions, and more minutely in the various text-books of *Anatomy* and *Physiology*.

Various and curious have been the notions entertained by philosophers, respecting the nature and character of the mysterious *AGENT* which combines these elements into the several organs of the body, which arranges these organs in due proportion into an entire system, and finally directs that system in all its operations, for good or for evil, from its completion to its dissolution. My convictions on this subject are expressed in the remarks on organic chemistry.

2.—Life.

The various elements of the animal frame, are formed into molecules, tissues, organs and a system; and this system is made to exhibit all vital phenomena, by the action of a specific principle or motive power existing in, and acting through a previous organization, which power has been called by various names, as nature, archeus, ens, vis vitæ or *LIFE*.

That the above proposition is true, is proved by the fact that it satisfactorily explains all the phenomena inseparably connected with the living state, and proceeding from it. For example:

So far as we know, all living bodies proceed from a previously existing seed, egg or vital secretion, in which is involved the formative and identifying power, and which has proceeded from, or still exists in, a similar species, whether animal or vegetable.

If corn be planted and nurtured under proper circumstances, corn will be the product, and nothing else than corn.

If eggs be placed in proper circumstances, we expect that chickens will be hatched, and should be much astonished to find that the eggs of fowls had produced a progeny of serpents.

And so, from the intercommunication of animals of various species, we expect the respective progenies, and we are not disappointed.

Finally, the fact that, though the same elementary materials are equally adapted to the formation of an infinite number and variety of plants and animals; yet the seed of each species possesses the power to mold these same elements in such a manner as to preserve the identity, the capacities and powers of that from which itself was derived, is an unanswerable demonstration of the truth of the proposition.

Objection 1.—It has been supposed that new species of plants and animals are continually rising into being. Of this supposition we have no certain proof. Who is wise enough to declare that there is not on the earth, nor ever was, at any time since the world began, a species of plant or animal

similar to some one lately discovered by civilized men? But, suppose it were true, it would not prove that the motive power that constructed them and presides in them, did not exist previously to their formation, while of this we are always sure, that, if the seed or the egg have lost its vivifying principle or motive power, it matters not how perfect its structure, how careful its preservation or how favorable the circumstances for its development, no plant or animal will be produced from it.

Objection 2.—It is said that nothing can be detected in the organized body, but the organs themselves; of course we have no knowledge of the existence of any thing else.

Answer.—Motion, or the operation of all the functions, is detected in the organized body; and yet motion is neither an organ nor a part of an organ. For all the organs in all their parts, are seen in the lifeless body. Now it were as unphilosophical to suppose that motion exists without a motive power, as that any organ should exist without a formation of it—as that corn should grow where none was planted, or chickens be hatched where no eggs were laid.

Objection 3.—It is said that, as the dead body possesses all the organs of the living, we have no proof that any thing has left it.

Answer.—The living body possesses no other organs indeed, than the dead; but it involves a *power* to move those organs and preserve them from the action of inorganic agencies, that is, from decomposition or putrefaction. This *power* the dead body has certainly lost. That this power is not an object of *sense*, is no proof of its non-existence—it only proves that it does not answer the definition of matter, and should therefore have another name; as, spirit, mind, or life. (See Chemistry.)

Those who have been compelled to admit that life is *something* else than organization, have attributed it to,

1. **OXYGEN.**—But oxygen is a *substance*, not a motive power. It is no more life, than it is a bone or a muscle. But if it were, it could be life to only one species of organized beings;—what then were the life of all the rest? Again, if oxygen were life, I should expect as one result, whenever I decompose a drop of water, to see swarms of organized beings, of all sorts and sizes, spring up before me like the creatures of every kind that issued from the door of Noah's ark when it was first opened on Mount Ararat.

Others have supposed the motive power of the organs to be

2. **ELECTRICITY.**—To this there is the same objection as to oxygen. It could constitute the life of but one species, and must be continually generating such species, whenever and wherever it might be brought into contact with the proper materials. If this were the vital principle, the experimenter would be in danger every moment of being devoured by "fiery flying serpents."

Again—it is supposed by many that

3. **HEAT IS LIFE.**—To this there is the same objection as to oxygen and electricity; and many other objections, even stronger than those, may be made. If it were true, we might expect to find abundance of life on the burning sands of Africa; and we should never expect to see life destroyed by fire, or find it existing amid the eternal frosts of a climate always below the freezing point.

4. But, it is added, there must always be a due proportion of heat with air, earth and water, and all these must be combined in an organized body. Then we might expect that, when an organized body were confined in a room of the required temperature, etc., it must necessarily continue alive, if alive when deposited; or it must even revive, if deposited there in a lifeless state. Suppose, however, that a certain grade of

heat were life, what were that grade? Many animals, as fishes, reptiles; some fowls, and multitudes of insects, are alive, when all the fluids of their bodies are frozen; while others, as alligators and various reptiles and quadrupeds, can endure a degree of heat that would almost roast a man. Man himself, in health, can comfortably endure a wide range of heat, even from more than twenty degrees below zero to more than one hundred degrees above it. But, when sick, he is sometimes too hot and sometimes too cold in the temperature the most agreeable to himself when well. If heat is life, we ought not to be sick or uncomfortable in fever, nor should we ever be burned to death. But, suppose it were admitted that heat is life, when combined, in due proportion with an organized body, a question still arises, what power first organized the body? Can heat, out of carbon, oxygen, hydrogen, nitrogen, phosphorus, lime, and a few other substances, organize one animal frame, much less the innumerable multitude of animal frames that people the earth, the air, and the waters?

5. THE EGG ARGUMENT.—But, say some, heat gives life in the hatching of eggs. I answer, heat will never hatch a rotten egg, or one that has lost its life. Nor will it cause a dead grain, seed or root to grow. The vital power must be there, or no art or circumstance can cause it to rise and shoot forth into a plant.

6. But "heat is indispensable to life." So are food, air, and water; therefore, the latter are as much life as the former. The fact is, that animal heat, so far from being the principle of life—the motive power of the animal frame, is only one of the developments of the motions of that frame, and in a degree nearly proportionate to the degree of its motions. Both the want and the excess of it are uncomfortable to the body, and destructive to life.

7. But, "LIFE IS THE RESULT OF ORGANIZATION."—Indeed! Then, I ask, what is it that first arranges inorganic elements into animal molecules, these into organs, and the organs into a system? Why is it that the organization does not always continue this result? Why is it that the organic *elements* or *molecules* are as certainly alive as the most perfect figure? Why may an animal be killed by a means that does not disorganize any portion of his system; as, electricity, prussic acid, sudden joy or grief?

To those philosophers who can not admit that there is, in the human body, any thing that is not either organization itself, or an effect of organization, because they can not touch, taste, hear, see, or smell it, I would say, for the same reasons they ought to deny the existence of an idea, of memory, or any emotion of the mind, none of which can they know by their senses. Such things can be known by no other means than their effects.

They should, also, for the same reason, deny the existence of chemical affinity, gravitation, and, in fact, every other purely motive power. The existence of these is not cognizable by any of the senses.

Neither is the existence of an atom of matter cognizable by any of the senses. We believe that there is such a thing as an ultimate atom of gold, silver, iron, etc., but why do we believe it? We have never seen, felt it, etc. By the accumulation of these atoms, they become visible; so, by the action of the motive powers, as gravity, electricity, their presence becomes cognizable to the senses. The motive powers are as certainly detected and distinguished by experience of their operations, as are the substances which they move by the senses. The distinction between the effects of digestion and fermentation or putrefaction, renders it as certain that the digestive force is not chemical affinity, as the difference in color, weight, and malleability of silver from gold proves that silver is not gold, nor gold silver.

NO DIFFERENCE IN LIVES.—But there are some who admit that life is somewhat different from chemical affinity, yet are still unwilling to admit that there is any difference between the life of man and that of other animals. Of these I ask, why, then, is not man a horse, a dog, or a cat? Why is he uniformly man? There is no apparent difference between the elementary *materials* that compose the bodies of different animals; a bone, a muscle, a nerve from one is very like, in element, the same organ from another. But the form, arrangement, adaptation and use are so widely different, that the different animals are never mistaken for each other. So of the motive powers which constitute their lives. They are distinguished, first, by the fact, that they organize different structures; second, by the different uses they make of them.

Between the vegetable and the animal kingdoms, there is, among others, this wide distinction, that the latter are either endowed with locomotion, and the choice of food, labor and rest; or so situated, as the oyster upon the rocks, that the food is brought within their reach by the medium in which they dwell; while the former is confined to the earth, and derives from it, directly or indirectly, its principal nutrition. Between man and beast there is this broad distinction, that the knowledge of the latter is confined altogether to his own experience. He can derive no advantage from the experience of his forefathers, nor can he divine what shall come after him. But man looks back, through the long vista of ages, to the point when himself and all other animals began to be; the point from which every living thing has been multiplied to its present number, and improved to its present condition, in geometrical progression, and he casts his eye, forward and upward, to the final consummation of universal perfection, with a surety of prophesy that falls little short of absolute demonstration. Fired with these perceptions, and with a holy ambition of which the brute, from his nature, must forever be incapable, he seizes the lamp of the past to light his pathway into the future, and presses toward the mark with a zeal and a success which well become and highly honor a being of his destiny, and only such a being. These properties or attributes, whatever you may please to call them, do as certainly and definitely distinguish the vital principle of man from that of all other animals, as the properties of specific gravity, color, malleability, etc., distinguish the different metals from each other. I therefore consider the proposition as clearly demonstrated, to the mind of every man who is capable of appreciating evidence, as are the problems of Euclid in the science of geometry.

PROPERTIES OF THE TISSUES.—The tissues which have been described as the foundations of the various organs of the body, are endowed by this vital force, with certain properties or capabilities of use, called *irritability, contractility, and sensation*.

CONTRACTION—IRRITABILITY—IRRIGATION.—Cut a piece of the lean flesh of animal lately killed, across the grain or fibers, and those fibers immediately shorten and leave a fissure. The same is seen when, by accident, the living flesh is cut across the grain. So, when any irritating substance or stimulus is applied to these living fibers, they are inclined to contract in the same way, and bend the limb, or move the flesh or skin, to which their ends are attached. This disposition to contract is called *irritability* or *contractility*. The act of applying the stimulus, is called *irritation*, and the recession of the fibers is called *contraction*.

SENSIBILITY — SENSATION — PERCEPTION — IDEA.—The power of receiving pleasure or pain from contact with any substance, is called *sensibility*, and the feeling which we experience from such contact, is called *sensation*.

The impressing of the mind by the consciousness of its contact, is called *perception*, and the image made on the mind by that impression, is called an *idea*. The place of sensibility and sensation, is wherever the irritated nerve is distributed: that of perception and idea is the brain, directly between the ears, a point called *the center of perception*. There are other centers of perception for the internal organs, called organic centers, as the ganglia of the lungs, stomach, liver, etc.

The bones, strictly speaking, are neither irritable nor sensible. All the "pains in the bones" of which the world complain, must be referred to the structure surrounding or penetrating these nervous structures.

VITAL AFFINITY.—The connection between the living principle or motive power and the elements, tissues and organs of the animal frame, or, in other words, the attraction it has for the elements of the body. I call **VITAL AFFINITY**, to distinguish it from chemical affinity, mechanical agency, etc.; and I deem it a point unquestionable, that its strength is always proportionate to the purity and excellence of the materials of which the organization is composed, and the favorable circumstances under which it is preserved. For example, a child born of healthy parents is far more likely to live than one born of sickly; and a child properly fed, clothed, exercised, disciplined, and preserved against improper exposure and unreasonable or hurtful medication, is far more likely to live and be healthy, than one not so treated, other circumstances being equal.

3.—Grades of Vital Action.

Though there is no part of the body which is not, in a state of health, perfectly alive, yet different organs manifest very different degrees of vital action, or irritability and sensibility.

Of the elementary tissues, the bones, the cartilages, the ligaments, the tendons, etc., exhibit very little sensibility or irritability. The serous membranes are not very excitable, unless they are inflamed. The mucous membranes can bear some irritation without suffering pain, or exhibiting material disturbance. Some parts of the skin, as the heel of the hand and foot, are not easily inflamed by irritation. By far the most excitable portion of the animal frame is the nervous system. But even here, vitality, or more properly sensation and motion, seem very unequally manifested. Slight disturbances of the respiratory and the splanchnic or sympathetic apparatus, are scarcely perceptible to the senses, while the most obvious manifestations of vitality are in the sensitive and motive nerves.

Illustrations.—A sound egg is as really alive as a grown chicken, but the motion, if any there be in it, is so circumscribed that it can not be perceived. So a bone, a cartilage, a tendon, etc., are not the less certainly alive, because they manifest no considerable motion. The serous membranes are not often subjected to any high degree of irritation. The mucous membrane of the alvine canal is destined to endure much irritation, and often compelled to endure so much more than it should, that it loses its susceptibility to excitement, and then it is said to be seasoned, acclimated, etc. The skin, also, by long custom, as in going barefooted, can endure much more irritation than other parts of the body, without serious disturbance of its proper functions.

4.—The Healthy or Physiological State.

When all the different tissues and organs of the body are sound, unobstructed, and unwearied, the living principle has free action through each

and every one, according to the degree that it was designed to sustain or manifest. This proper condition of the system is termed *health* or the physiological state.

5.—Equilibrium of Vital Action.

When all the various organs of the body are in the physiological or healthy condition, there is a certain graduated balance of action among them; that is, the various absorbents take up, each just about so much fluid as is necessary for the purposes of the organs to which they minister; the secretions elaborate from the blood just such and about so much fluid as may be wanted respectively; the excretives discharge from the body every substance that has become useless for the purposes of vitality; the muscles perform their motions with ease; the chest expands and the heart beats freely; the digestive and nutritive operations are fully, freely, and perfectly performed; the saliva, the mucus, the gastric juice, the bile, the pancreas, the serum, the synovia, the tears, the urine, the sebaceous fluids, the perspiration, etc., are easily and freely discharged as nature requires. No organ of the body is in such a condition that it can not perform its duty in these respects, and in every respect for which its nature is designed; and the five divisions of the nervous system, each and all perform their appropriate offices. If no obstacle were to impede any of these operations, from the beginning to the end of organic existence, the animal frame would continue sound and healthy, and death would take place only when the vital machinery were worn out. The period necessary for the accomplishment of this object is called

6.—The Term of Life.

It is a universal law of nature, that friction tends to the waste and destruction of all bodies which are subject to its influence, and that the rapidity of this waste is always proportionate to the quantity of friction in the body.

Illustrations.—The precious gem, relatively fixed, and excluded in the earth from friction, by the unmolested power of gravitation, will probably continue as it is, until “the wreck of matter and the crush of worlds.” The pebble, rolled in the vortex of a whirlpool, is constantly losing, however slowly, material from its external surface, and will, sooner or later, be entirely wasted by comminution. But the machine of a thousand pivots, a million of cogs and slides, is far more rapidly tending to destruction; and who does not know that the more rapidly its wheels revolve, the less number of turns will be requisite to perfect its total destruction? In the view of these facts and this reasoning, which no thinking man will dispute, what machine on the earth is so liable to speedy destruction as the animal frame? What other machinery in nature possesses such a number, fineness, and activity of elements, and, of course, so much friction in so small a compass? But for the relief it obtains against friction, from the substances eaten and drunken, this wonderful machine, that frequently lasts a century, would be ruined in from two to four weeks. This is no picture of a crazy imagination. On the contrary, no proposition in physiology is more clearly established by fact. Every one knows that those beasts or men that are subjected to the greatest hardship, exposure, and privations, “grow old” faster than others not so subjected; and, if they do not die much sooner, their continuance is ascribed to their better constitutions, which overcome the obstacles under which others would have sunken; and it is admitted, on all hands, that they would have lived longer with less excess.

But some will object that, if we would live long, we must stop all the friction that is under our control. I answer, reptiles have been in that state thousands of years, *when buried in rocks*, but of what use to themselves or others were they in that condition? The enjoyment and usefulness of the animal frame are made to consist in its motions, particularly the motions of external relation; therefore, an important question is, how many of these motions can be allowed, without abridging or destroying the happiness and usefulness they were designed to produce? To aid in the solution of this problem, we have been kindly permitted to make use of food and drink as stimulants to the proper action, and as protectors against the friction which, without such protection, would make sure and speedy desolation of the animal machinery.

Food.—But another question arises—what sort of food and drink is best calculated to protect this machinery against friction; that is, to prevent or supply the waste of its fluids and solids? If we just take an excursion among all the various classes of engineers, and ask them what substances are the best protectors against friction, one will tell us that lard is the best, another tallow, a third black lead and tallow; the watchmaker says the oil of a certain fish is the best for this purpose; one prefers, for pivots or sockets to machinery, iron, another brass, another zinc, and another wood; and thus we find a vast diversity of opinion. But can it be supposed that all these substances are equally good to guard against friction? Will not some rub harder or dry away quicker than others? And would it not be well for every machinist to make experiments, and collect and compare the experiments of others, to ascertain which of all these articles was, on the whole, the best and cheapest for the purposes to which they are applied, and then to use them, and them only? What should we think of the man who, after having used the smoothest and hardest of surfaces for sockets and pivots, and the best of oils as a protection from friction, should stoutly maintain that granite is as good for the one, and sand for the other, as any thing else; and, in obedience to this doctrine, should use any thing he got hold of?

But were such a man not quite as wise in counsel and prudent in action, as he who supposes that, from the diseased and bloated animal body, can be produced an offspring of the best constitutional frame, and that, from all the ten thousand substances or forms of matter taken at random, and without long and careful observation of their effects, as food and drink, this delicate and complicated machinery of ours can be made to last equally long, and to perform its duty equally well? The supposition is the hight of absurdity.

7.—Means of Life.

As I have already proved, from the laws of its nature, that it is impossible, by any human art, to continue the animal machinery forever, in any condition in which even life were a blessing, the practical questions now to be decided are:

1. By what means can man secure the best constitution to his offspring; and,
2. By what further means can that constitution be so preserved, as to make it, not for a moment, but through the whole period of its existence, the most happy in itself and useful to the world.

I am willing to admit that I am here led into deep waters; but I hope to prove, in the course of my investigations, that I have the *life preserver* under each arm, and therefore shall not sink. As it is self-evident, that a sound constitution can be secured in the offspring only by securing sound health to

the parent (see generation and hereditary descent), it is clear that I need answer only the second of these questions. Notwithstanding all our efforts to maintain inviolate the constitution and health of our bodies, such is still the degree of our ignorance of what is good for us or evil to us, and such our unwillingness to obey the laws with which we are acquainted, that children are, and doubtless forever will be, born possessed of different temperaments or degrees of excitability, not only in the different structures of the same system, but in the general structures of different systems. These different temperaments or degrees of excitability, when correctly observed and marked, will form the basis on which to determine the character of the food and drinks, exercise and clothing, and even the intellectual and moral culture adapted to each individual. The materials, therefore, used to prevent friction and supply wastes must all be adapted to these purposes, and used by each individual in character and quantities suited to the wants of his own peculiar temperament.

"Hold there," says the lazy objector, who has been listening to me a long time, in the hope that I would presently tell him just what and how much he must eat and drink, what kind and how much exercise he must take, and how much clothing wear, and thus save him the trouble (pleasure I should have said) of observing, thinking and experimenting for himself—"hold there; after proposing to tell me how to preserve health, prolong life, and secure happiness, you expect to fulfill your engagement, by telling me to study and work out the problem for myself!" Yes, surely, I answer, "the proper study of mankind is man;" and my proposition was not to tell you just what and how much you should eat, etc., but *how* to determine these things for yourself, in such a manner as to secure the highest happiness to yourself, both in the means and the end of your existence.

For example, then, a person possessing a dull, sluggish temperament may eat, and, probably, requires, articles of food and drink of a somewhat stimulating character to aid his vital machinery in carrying on all its operations; while one of a very active temperament should avoid all highly irritating substances, except when needed as medicines to cleanse the system from impurities. So, a person of the sanguine temperament should guard against the habitual use of those articles of diet or drink that quicken the action of the heart and arteries, while he of the pure nervous temperament should avoid all severe excitements to that most delicate and irritable structure. In his efforts to obtain the knowledge of what is suited to his system, each individual may be greatly assisted by the experience and observations of others, whose temperaments are nearly the same as his own; but that knowledge can arrive at its highest possible degree of perfection, only by obedience to the dictates of personal experience.

But it has been contended that, if a temperament be sluggish, a stimulant applied to it, although it does not produce such distinct manifestations as it would in one more active, yet it does as certainly raise its action above the healthy standard of that individual, and is as injurious to him as it would be to the nervous. I acknowledge that very many facts strongly countenance this theory, and I therefore reply that, should experience prove it true, the proposition above requires that such stimulants should not be given, even to this class of persons, for the purpose of preserving their health.

8.—Our Condition—Food, Poisons, Medicines.

Many persons appear to think it of little importance that they study much into their own character and destiny, provided they have either money enough to support them, or a mind content with little of this world's goods.

But, in the light of the foregoing proposition, they will see that it is only by the most careful study of the relations they sustain to the objects and operations about them, and a strict obedience to physical laws, that they can expect to prolong their lives or to enjoy, unremittingly, even bodily health, without which life were a curse instead of a blessing. They will see that ignorance and neglect or indifference are surely repaid by the penalties of violated nature—sickness and sorrow, and premature old age and death. They can no more obtain happiness and avoid misery, without knowledge, care, and effort, than they can cease to grow old in the current of time. We are liable, within and without, to the action of various agents, some of which contribute to the continuance of our health and happiness, some are injurious or destructive to both, and others contribute to restore them when wanting.

Food.—The agents that act on the internal system, are, first, those which, in quantities sufficient for an ordinary meal, supply the body with stimulus and nutriment just sufficient for its wants, and contain nothing in their nature inimical to the vital operations. All such articles are properly termed **FOOD**.

Poisons.—But we are liable to receive into the system many other articles which, in similar quantities, impede or destroy the vital operations, and are, in their very nature, in whatever quantity, inimical to health. These are properly termed **POISONS**.

It is the part of wisdom to preserve the internal system from the action of poisons of every description, and to avoid contact, in every shape, with any and every agent that experience, careful and extensive, has ascertained to be, in its nature, inimical to the organism or its operations. We should avoid breathing mephitic or miasmatic airs, the air of rooms in which many persons are confined, and all other hurtful vapors, as those of mercury, lead, antimony, etc. We should not unnecessarily come into contact with persons affected with any contagious disease, or with the poisons of vegetables or animals, calculated to injure our health, if not to destroy our life; and we must remember that, when our own experience is wanting, that of others must be our guide in all these matters. If, from inattention to the above directions, we become sick, it will be the extreme of folly to undertake to cure ourselves with means that we know are calculated to make us sick. If we have taken cold, let us heat it out; if we have eaten too much food, let us eat less for a while; if we have taken bad food or poison, and the system proves unable to get rid of it, let us take emetics, enemas, and the vapor-bath until we are free again.

MEDICINE.—Again—we are surrounded with, and liable to receive into the body, a great number and variety of articles that, even in small quantities, stimulate the various organs of the body to a natural action, which they carry beyond the healthy standard, without doing it any further injury than what may arise from mere fatigue; these, when used according to the present wants of those organs, are calculated to restore them to a healthy action, and are hence called **medicines**.

9.—Good and Evil.

I have said that experience is the only safe guide in the choice of the good, and the avoidance of the evils with which we are surrounded; but I have also said, that our senses are often erroneous, and must be corrected. The unperverted senses would generally, if not always, dictate to us what is good and what is evil as food, and the feelings would enable us to make a proper choice in the articles of clothing, and the important business of exer-

cise of mind and body. But we live in an artificial state, in which all these things are perverted. The educated appetite often craves those articles of food which produce an unnatural and extraordinary excitement in the system, and, of course, if they do not immediately destroy it, do most certainly tend to its premature decay and destruction : such is the craving for alcohol, opium, tobacco, and all the various narcotic stimulants. We are, in very many instances, totally ignorant of what is good or evil for us, and, in many more, are so willing to gratify our depraved appetites and passions with what we know to be injurious, that, in the vast majority of instances, we interrupt our health, injure our constitutions, and destroy our lives long before the day arrives to which we might have lived, had we strictly obeyed the laws of our being from the commencement to the end. Hence the necessity for the knowledge of the laws of life and death, and the practice of the healing art.

10.—Food.

Our first effort, then, to ascertain what articles are good for food, is to learn, from the experience of others, what have been universally esteemed as such ; and, by trying them for ourselves, to prove whether we find them apparently good.

Our second step is to try these same articles by a more extended and protracted examination, and thus learn whether, though they appear to do us good for a time, they do not, finally, injure our systems by paralyzing them, or wearing them out sooner than necessary ; or, at least, whether they are the best articles that can be obtained for our support. With all due deference to those who suppose man to be an omnivorous animal, that can manufacture good chyle out of every thing, I am constrained to believe that some articles are far better suited to this object than others, and as much less injurious to the machinery ; and that, therefore, it is the dictate of wisdom to confine our diet, so far as our circumstances will allow, to a few of the best. We ought to eat and drink that which is best calculated to enable us to live long and act well ; and not to desire to live merely to gratify a depraved appetite.

11.—Exercise.

In the choice of exercise, the same general principles should guide us. After a long cessation from labor, exercise, of almost any kind and degree, will afford relief, and, if we looked no further than present feelings, we might suppose that it were of little consequence what kind or degree we take. But this is not so. Our exercise should be adapted to the promotion of all the functions of the body in due equilibrium, or it may do us more harm than good. For example :

Moderate walking, or riding on horseback, without any anxiety about the time or distance, is an excellent exercise, calculated to preserve health and prevent disease ; but if it should be violent, or connected with any mental anxiety to shorten the time, it meets with a kind of physical resistance that renders it injurious to health, and a cause of disease.

Our exercise should be of a character calculated to excite every organ to the performance of its proper and due amount of action, in such a manner that each shall be relieved before it becomes fatigued, by the action of another. The science of gymnastics consists in the principles that govern this art, and the exercises are the developments of those principles.

12.—Clothing.

Our clothing should be, in the first place, equal over the body, and warmer on the limbs of the sedentary, especially the lower, than on the body, because the vital operations in the body keep it warmer than they do the limbs, unless the latter are freely exercised, as in walking, planing, chopping, etc., when they do not need extra clothing. The inequality in the clothing of children, leaving their hips, legs and arms bare, while their bodies are muffled up warm, is a source of more summer complaint, than what is caused by any improper food they eat, though the latter is a fruitful cause. The parts left exposed, lose rapidly the heat, and become cold and contracted till the blood does not flow into them in quantities sufficient to keep the surface warm, and enable it to cast off its proportion of the perspiration. The fluids, thus prevented from passing outward, are driven inward to the bowels, and pass off, first in diarrhea, and this soon irritates them to such a degree as to produce pain, straining, and the forcing of blood through the capillaries of the mucous membrane. It is now called flux, and the too common treatment of giving physic increases the evil by producing still more irritation; instead of which the bowels should be soothed by laxative and emollient enemas, and the surface warmed, stimulated and clothed, so as to restore the perspiration.

In the second place, the quantity and kind of clothing should correspond to the temperature of the atmosphere, and be changed with its changes. Light clothing for warm weather, and warm clothing for cold weather. The man who would have good health, must not wear flannel and woolen pants and coat in a temperature of 80° , nor must he throw off at evening, when the temperature has fallen, a coat that he wore in the heat of the day. But he must change with, and according to, the temperature, and as often as it changes.

Lastly, the clothing must be perfectly free all over the body. No part of it should fit so closely as to impede any motion which the part covered is capable of making. This is an indispensable requisite to sound health. Three of the principal reasons why a so much greater proportion of women and girls than of men and boys take cold and are diseased, is this inequality of dress, this tightness of it on some parts of the body, and this uniformity of the quantity worn in hot and cold weather, morning, noon and evening, or what is even worse, their fashion of dressing irregularly, thinly and tightly, on public occasions, in cold weather as well as warm. This practice is a most fruitful source of disease, suffering and death to the individuals who are guilty of it, of expense, trouble and unhappiness to their friends, of miserable constitutions to their offspring and degeneracy to the race.

Instead of the popular changes of fashions in dress, the whole community in a given region of country should ascertain what quality and quantity of clothing is best suited to that region, and should wear that always; and every body, the world over, should cut and fit their garments of whatever kind, as suggested above, and should never change those forms or fashions. One great reason why the society of Friends, as a body, are proverbially healthy, is the uniformity in kind, distribution and freedom of their clothing. And so great is the influence of clothing on the body, that I often cure very severe forms of disease, by simply regulating that, and ordering no medicine at all.

Clothing may be very comfortable, in kind and quantity, for present feeling, and yet insufficient, in one or the other or both, to preserve health or prevent disease. It is very pleasant, after violent exercise, to sit down in a cool breeze, or stand in a shade without an additional garment; but it is

almost certain destruction to health. The thick woolen coat in such cases, even though rather uncomfortable to our feelings, is indispensable to retain the heat around our bodies until we cool so gradually as to preserve the natural heat of the surface; or, as it is commonly expressed, prevent ourselves from taking cold. During violent exercise, a rapid tendency of the heat and fluids to the surface, expands the pores to such a degree that, if the exercise be suddenly stopped, the heat escapes too fast, and soon leaves the surface cold. For want of heat to keep them open and active, the pores now become permanently closed, so that, after the organs of circulation become rested from their fatigue, and commence a strong action again, there is not room for the escape of the heat and blood at the surface. They accumulate there, and, by their pressure and irritation, produce heat and redness, pain and swelling—the four principal characteristics of fever, some of which are present in every case. The reason why we are not aware when we are taking this cold, is, it takes place when the organs of diffusion, or circulation and secretion, are comparatively at rest, and the evil is not perceived until it is too late for prevention. But if, even now, some rapid exercise or a vapor-bath be taken before the tissues become enfeebled by their permanent contraction, the evil will be removed, and we shall be as well as before. If these principles were well understood and constantly obeyed, a vast amount of sickness, suffering, and sorrow would be prevented.

13.—Disease.

Any injury done to any organ or organs of the human body, which does not amount to the total destruction of its vitality, is properly termed disease or *malaise*; in other words, the *inability* of any organ or organs to perform the natural functions, in its or their proper measure, is termed disease. This inability may consist—

1. In a too great and permanent relaxation of an organ, as is the case with the skin, when it is subject to cold and profuse sweats; with the muscles, when they are so weak that we can not command their proper action; with the bowels and bladder, when their contents are discharged against our will, or in spite of our efforts to prevent the discharge, as in passive diarrhea and diabetes.
2. In a too great and permanent contraction of an organ, as of the skin in an acute, burning fever; of the muscles, in cramps and spasms; and of the nutritive and serous tissues in internal fevers and inflammations.
3. In too much irritability, which causes an excessive action, as in the salivary glands in ptyalism; the bowels in dysentery; the inflammation produced by specific viri, as poisons, measles, small-pox, scarlet fever, itch, etc., and the brain in pleuritis.
4. In the obstruction of the passage of fluids by substances lodged in the vessels, as often in bilious fever and jaundice; in scrofula, cancers, etc.
5. In the permanent compression of an organ, as is the case in the chest of those ladies who wear corsets; in corns, tight hats, etc.
6. In the paralysis of the nerves, as in hemiplegia, paraplegia, and in all cases of palsy, and in many cases of poisoning.
7. In the mortification or destruction of a part of an organ, as in abscesses, ulcers, etc., in which diseased or dead parts are commingled, and in sudden and violent mechanical or chemical lesions, as wounds, bruises, burns, corrosions, etc.

14.—Causes of Disease.

These are any thing and every thing that can, in any way, disable an organ to perform its proper functions. They may be classed under—

1. *Hereditary taints*, as the scrofulous and consumptive constitutions, transmitted to us by our parents.

2. The natural secretions and excretions of the organs, as the mucus of the lungs and stomach, the bile, etc., that have become depraved, in consequence of not being used in the body, or excreted from it in proper time and manner.

3. Sudden changes in the system from heat to cold, exercise to rest. (See clothing, and intermittent fever.)

Though exercise, in proper quantity and kind, and in proper seasons, is one of the best means of preserving health, yet neglect and excess of it, and irregularity in it, are among the most common causes of disease.

If the organs are not exercised to some extent, they do not perform their offices sufficiently to cleanse the body of morbid agents, which, therefore, remain in it and cause disease. An organ, too, loses its power to act, simply because it is not exercised. Men trained without labor are never so hardy and robust as those that have been accustomed to hardship during their growth; and those that grow up under toil and exposure, lose much of their strength and their organic power after long relaxation from labor. But, if exercise be carried too far, the organs are fatigued, overcome, and sometimes injured beyond recovery.

Irregularity in exercise is a very fruitful source of disease. A sudden cessation of exercise, after it has been rapid and long continued, leaves the surface of the body too open; the heat rapidly escapes, the pores suddenly collapse for want of it, and the system is left, for a while, in a condition of lassitude, which is followed by reaction, a sense of chilliness, and, afterward, a fever. Hence, we see that nothing is more easy or common than for men to abuse their choicest blessings, and make them the occasion of evil. But it must never, therefrom, be absurdly inferred that these blessings are, in their nature, evil.

4. *Violent mental emotions*.—Excess of joy, grief, anger, or of mental effort, overworks the nervous systems of relation and nutrition, and produces disease; sometimes suddenly, as in apoplexy; but more commonly by slow degrees, as in dyspepsia, etc.

5. *Excesses in diet*.—Too large a quantity of even good food, either clogs the organs, or obstructs their free and healthy action, or continues that action to get rid of it until the organs are fatigued, and thus rendered unable to accomplish their work so speedily and faithfully on future occasions. Eating too much is undoubtedly one of the principal causes of disease in the world. It is a sin of which all men are more or less guilty, and for which very many persons severely suffer.

6. *Poisons* received into the alimentary canal, or by absorption through the lungs, or the external surface:—These are substances which, in any and every quantity, possess a tendency to destroy the vitality of the organs with which they come in contact, and do actually effect that destruction in all cases in which their influence is not overpowered by the vital force. Hence, though poisons may, by the vital reactions they provoke, be sometimes made the occasions of good to the system, they can not be properly viewed in any other light than as direct causes only of disease; of course, they should never be taken, for the cure of disease, in any form.

7. *Medicines.*—The unnecessary use of the pure medical stimulants, in the place of food, proper exercise, and rest, or in connection with them, is another cause of disease.

As I may here meet with opposition from persons who do not sufficiently think and experiment for themselves, but adopt with eagerness, and maintain with violence, whatever strikes their fancy, I will make it sure as I go.

It is admitted by all, that the object of medicine is to alter the condition of the organs to which it is applied. I shall show hereafter that relaxation, contraction, and stimulation are the only purely medical effects to be produced on the human body. When, therefore, the body is in health, that is, neither too lax, contracted, sluggish, nor active, any extensive and permanent change of its condition would be manifestly injurious.

To commence in perfect health, regular dosing with powerful astringents, would soon produce that permanent constriction of the bowels denominated costiveness, which is generally followed by all the horrible evils of dyspepsia. A continued dosing with lobelia and laxatives would in time derange the stomach and bowels to such an extent that food would pass off undigested, and the system would cease to be nourished.

Nor is it less certain, that a constant dosing with cayenne, the purest and most harmless stimulant known, would as certainly overcome, by too violent and long-continued exercise, the nutritive tissues; as violent labor, continued night and day, will overcome, fatigue, and disease the muscular structures.

But the argument, therefore, that astringents, lobelia and cayenne are, in their nature, injurious to the system, and may be considered, in large quantities, poisons, is not more just than the assertion, that labor is injurious, and, in excess, may be styled a poison. All are in harmony with life, and so far as needed to keep up the equilibrium of the various functions are indispensable to health. Beyond that point all are injurious, but neither is poison. Geranimum is astringent, and invaluable when needed; but, could its use be proper in a case of obstinate costiveness? Lobelia is a powerful relaxant; its usefulness in relieving spasm is not surpassed by that of any other article that we know. It can not destroy the integrity of a muscular or any other structure, nor deprive it of life. Yet it were manifestly improper to keep muscles continually in the relaxed state which lobelia is capable of producing. Medicines, therefore, or medicated food and drinks, in a healthy state, are certainly improper.

Besides these, there are unknown specific causes of disease, as those which produce small-pox, scarlet fever, measles, plague, cholera; and vital causes, as the acari in psora, the intestinal worms, etc.

These causes of disease do not always, though present, produce disease. The healthy action of the system is very frequently sufficient to remove them. It is only when they act with sufficient power to overcome or impede the vital functions, and so long as to paralyze or otherwise injure the organs, that they produce disease.

15.—Modes of Attack.

1. The causes of disease may attack us through hereditary descent, as is often the case with scrofula and consumption, erysipelas and syphilis.

2. They may arise in the system in the form of secretory or excretory matter, that, from inaction of the organs in which it is prepared and transmitted, has become changed in its character to a pernicious irritant: as phlegm in the lungs, bile in the stomach, calculus in the bladder, and perspiration suppressed in the various forms of dropsy, etc.

3. They may attack the mucous membranes in the form of poisonous gases; or effluvia, into the lungs, as in breathing the mephitic gas of wells; or the polluted air of hospitals infected with contagion; or of irritating substances into the alvine canal, as poison into the stomach, worms in the bowels, etc.
4. They may be absorbed into the venous radicles of the surfaces, as mercury and other poisons are often received.
5. They may merely irritate the nervous papillæ, and cause contractions of the organic envelope, which will be followed by congestions, fevers, etc., as when we take cold, or swallow astringent poisons.
6. The causes of disease may act chemically, as do the escharotics, caloric, in burns, etc.; or mechanically, as in the compression of nerves and blood-vessels, in paralysis, apoplexy, and all wounds and bruises, and the action of tubes may be obstructed, either by filling their cavities, or by contracting their coats, or paralyzing their nerves.
7. The vital action may be so violent and long continued on the nervous organs, as to overcome and debilitate them, producing the numerous forms of disease called neuralgia, insanity, etc.

16.—Effects Produced.

The effects produced by the action of the causes of disease are

1. Obstructions of the passages for fluids, either by filling them up with foreign material, as when the pores of the skin are closed by biliary matter in jaundice; or by contracting their coats, as when we take cold after exercise.
2. Excessive and permanent contractions, as in fevers, spasms, lock-jaw, etc.
3. Excessive and permanent relaxations, as in cases of great prostration of the organs, night sweats, etc.
4. A highly irritated and inflamed condition, succeeded by irregular action, or great debility, as in chronic cases succeeding the acute.
5. Destruction of the vitality of organs without affecting their integrity, as in cases of paralysis of nerves.
6. Destruction of organic integrity, as in abscesses and mortification of every kind, in all wounds, bruises, burns, blisters, etc.

17.—Signs or Symptoms of Disease,

Or the means by which we recognize it, are acts or appearances of any part or organ of the body, which differ from those that are exhibited in health. They are either vital, mechanical or chemical.

The vital are those that are produced by the action of the living system, and are called irritation, ache, pain, fever, inflammation, all which are evidences of obstruction to a full and free, and nervous circulating action.

The mechanical signs are material obstructions to the action of organs, or the hindrance of the secretions by morbid matter in the capillaries; the external compression of a muscle, vessel or nerve.

The chemical are the destruction of tissues, as in erysipelas, scrofula, felons, abscesses, burns, gangrene, and necrosis.

18.—The Indications of Cure.

The indications of cure are :

- To relax spasm, or constricted organs;
- To contract and strengthen relaxed and debilitated organs;
- To stimulate sluggish organs; and

To remove all obstructions to their free action. These are not always to be done in this order;

To furnish the system with the means by which it recovers its strength or equal and universal action, and builds up its wastes.

Whatever be the diseased condition or its cause, all our therapeutics or treatment must be conducted on these principles. All the fluids of the system are moved through it, by the alternate contractions and relaxations of the vessels from which they are sent, and in which they are transmitted; thus the blood is thrown by these actions of the heart and arteries, and returned by the same movements of the veins; the chyle is absorbed or elaborated, and carried to the circulation; and the lymph is taken up and united with it, by the alternate contractions and relaxations of the fibers which compose the coats of the tubes through which they pass. All the voluntary and involuntary motions of the body are performed by the alternate contractions and relaxations of fibers; and the food is masticated, swallowed, and moved through the system by the same process. To relax, to contract, to stimulate, to lubricate and to furnish the system with the proper materials, for nutrition, constitute the whole *modus operandi* of the medical art.

19.—The Means of Cure.

By the means of cure are meant all the motive powers and material substances that can be so brought to act upon the body or its tissues as to remove the causes of disease, and restore healthy action. Of these, the first and most powerful wherever available, is the vital force itself, of the patient or the practitioner, or both combined, (see neurology and animal magnetism). The second is electricity, and the third caloric. The first and second being limited in their application to certain characters of cases, I leave for further consideration. The third, caloric, is almost universally applicable, especially in company with water.

All experience has proved that warmth and moisture relax all animal fiber; that dry heat or dry cold contracts it; and that some medicines do one and some the other. That certain articles and processes stimulate the organs to high action, and that nutritious food aids them in building up the wastes and restoring the tissues injured.

Warmth and moisture are relative terms. The degree of caloric and the quantity of water or other fluid necessary to constitute the condition of feeling indicated by these terms, is very different for different persons, and with the same persons at different times.

When our blood is at the proper temperature, the circulation free, equal, and universal, if we get into a bath of water just so warm that, when perfectly still, we can not perceive, merely by *our feelings*, that we are in water at all, that water is said to be lukewarm, or bloodwarm. If the fluid is felt to be more than lukewarm, but not so much as to be unpleasant, and incline us to shrink from its embrace, it is said to be warm. If the temperature is so high as to render our bodies in the bath quite uncomfortable, and incline us to shrink from it, we call it hot. If the temperature is so high as to be too severe to be endured, we call it scalding. So air, as well as water, may be lukewarm, warm, hot, and burning (not scalding).

It is, however, evident, or may be easily proved, that, when we are very cold, the lukewarm will appear hot, and the hot will be scalding, to ourselves or to others in our situation.

So of the degrees of cold. Any degree, from lukewarm down to that from which we withdraw as painfully unpleasant, is cool; from this point to that

at which our organs freeze, is called the cold state; and that below this, is called the freezing state.

Again—it is clear, or may be easily demonstrated, that the same absolute degrees of lukewarm, cool, and cold, will feel very different to us at different times, and to different persons at the same time, on account of the different degrees of action in the body and heat on its surface. The less heat there is on the surface of the body, the higher *seems* to be the temperature of every thing about it; as we may readily see, by washing very cold hands in what--to hands in a proper state—would be called “lukewarm” water, and by coming into a warm room when we are cold.

Moisture is also a relative term. It indicates that condition of an organ or of the system in which water is present, but not in quantities sufficient to be wrung out and perceived. Enough of this however, to keep the hands or body of a well person soft and pliant, would not manifest its presence at all in an organ that is highly excited by burning inflammation. It would be instantly evaporated.

Hence, as I said, the terms lukewarm, warm, cool, hot, cold, burning, freezing, are relative terms. Still, that degree of heat and quantity of fluid, whatever they may be, that are pleasant to the sense of touch of the experimenter, is calculated, as said above, to relax animal fiber.

Besides these, it is found that certain articles of the *materia medica*, act through the nervous system, in such a manner as to produce the same relaxation of the tissues that is produced by the warmth and moisture. These are termed antispasmodics; lobelia inflata, and eupatorium, perfoliatum, are among the best remedies of this class.

A true estimate of the character and indications of disease, will lead us to support the action of the system against its causes. Hence, instead of subduing the nervous action with narcotics, the febrile and inflammatory with lancets, mercury and their adjuncts, the attention of the true practitioner will be directed to the removal of all those objects and conditions which interrupt the full, free and universal action of the nervous, circulating, and secreting and excreting organs. No agent or remedy whose direct tendency is to deprive the organ of its full vital force, can ever be properly used in the treatment of disease. On the contrary, all the agencies of the *materia medica*, must be those that are calculated, under the circumstances before us, to assist the vital organs in the proper performance of all their functions. Hence in the treatment of disease, on the physio-medical plan, every thing that is properly termed a poison, is absolutely rejected. And that which is best calculated, in small quantities, to promote a healthy action of the organic tissues, that is, to give full and free play to the vital force, is to be received into the *materia medica*.

20.—Astringents.—Dry Heat or Cold.

The continued application of dry heat to the body, evaporates its moisture, and permits the tissues to contract for the want of that moisture; and it also stimulates the surface to an effort to retract from uncomfortable action of the heat itself. Thus the pores are closed, and the circulation and perspiration are impeded. So, if the surface of the body is exposed to a dry and cold atmosphere, like contraction and the same effects take place.

The same results may also be produced by the action, on the nervous system, of certain medicines called astringents; those contain large portions of tannin, as the bark of the oak, birch, alder, hemlock, sumach, etc.

21.—Materia Medica.

From the developments made above, it is evident that the *materia medica*, will consist of any thing and every thing that can in any way aid the vital organs in the performance of their healthy functions, and that those which afford them the most aid with the least expenditure of their strength, must be arranged among the best. It is also manifest that not merely the substances in nature should be considered articles of the *materia medica*, but that the various motive powers should be brought to the aid of the physician in therapeutics. Those bad conditions of the body as a cold and contracted or relaxed and enfeebled state, may be relieved by the application of caloric, while an excited and feverish state, may be relieved by the abstraction of the excess of caloric.

So, an enfeebled and inactive tissue may be roused and toned by the application of electricity. But, since the vital force of the human body is that which first organized it and continues to sustain it, it follows that this force is the most powerful means not only of protecting it against the action of the causes of disease, but of removing those causes after they have attacked it. All the powers inferior to the vital force are limited in their action to one mode or end. Thus an astringent can never act in any other way than by contraction; an antispasmodic can act in no other way than by relaxation; a stimulant no other way than by producing excitement. But the vital force is capable of producing any of, or all these results according to the designs of its application; and hence is more universally applicable than any or all other means or powers united. It is well known that the will of the individual diseased, when directed in the line of cure, that is, when the patient is determined to get well, has a far more powerful tendency to produce that result, than any medicine the physician can administer, while a determined despondency of the patient, produces a degree of debility and inactivity which medicines can seldom overcome.

As the vital force of the practitioner and of the patient, are of the same kind, it follows that the will of the former can aid that of the latter in the production of the effect desired. It is on this principle that all the curative operations of charms, and of animal magnetism and spiritual agencies are based. If we admit that all the vital actions of the living body are produced by the agency of the vital force; that it formed that body and still lives in it and presides over it; and, if we further admit, what no one will deny, that the presence, countenance and encouragement of another living person, aids the vital force of the patient in recovering the healthy condition of the body; and if, still further, we believe and realize that the spirits of the departed still hover around us and are interested in our welfare, we must believe that they, being spirits congenial with our own, can have a like influence in co-operating with us in restoring the action of our organs to the normal condition. What can hinder a departed spirit from acting on a living body? Nothing but the unwillingness of the living. "He could do no mighty works [healing the sick] there, because of their unbelief," or unwillingness to be healed. "According to your faith be it unto you." "Hast thou faith to be healed?" That is, will you yield your body to my influence? "If any man love me I will come unto him and dwell with him," etc. "And I will send the comforter which is the holy spirit," and "he shall lead you into all the truth." "He dwelleth with you and shall be in you."

Here we are plainly taught that one spirit can dwell in and influence (lead)

another's mind and, of course, his body. And it is added, "The works that I do [the miracles of healing the sick, etc.], shall he do, and greater works than these shall he do, because I go to my father."

If, therefore, we are not downright infidels to the teaching and practices of Christ, we must believe that the spirits of men both in the body and out of the body, are the most powerful of all agents in healing the sick, wherever the practitioners have the inclination and courage to practice, and the patients the faith and desire to be healed.

The inorganic power which most nearly resembles the vital force in its applicability to the treatment of disease, is *electricity*. This power may be so applied by means of various instruments of development, as to produce nearly all the effects desired in the restoration of tone to the debilitated organs. For the means and modes of application of this agent see *Electricity*. But the power most convenient in the treatment of disease, and that which is at all times available, and, on this account, is often more useful than electricity, is caloric. This agent, in combination with water or other fluids or without them, is among the most efficient means of medication we possess. It requires no aid from faith, and can always be applied.

22.—Stimulants.

All articles that tend, in any degree, to excite vital action, are properly called stimulants; but this term is usually applied chiefly to those that increase the action of the nerves, the heart and arteries, and the nutritive and sensitive tissues; those that only relax the tissues being called antispasmodics; and those that only contract them, astringents. The pure stimulants produce alternate relaxation and contraction, in rapid succession, the general tendency of which is neither to permanent debility nor tonicity, but to a natural action which may, or may not, be raised above the healthy standard. Cayenne, ginger, and cloves, are examples.

23.—Tonics.

This term is generally understood to mean those articles that directly increase the tension of the tissues; and is mostly confined to bitters and astringents. It is well known, however, that any medicine that will excite a healthy action in the system, whether it be bitter or astringent, or neither, tends to remove morbid agents from the organs, and, of course, to enable them to recover their tone or activity and power. Hence, both relaxing and astringent bitters are tonic, because they are stimulant. Perhaps the best tonic as well as the purest and most powerful stimulant known is cayenne. But for the first of these purposes very small doses are sufficient.

By the *materia medica*, then, are meant those articles which, taken into the system in any of the ways in which the causes of disease may attack it, tend to produce contraction, relaxation or stimulation of living fiber, or the solution, attenuation, neutralization, etc., of the offensive agents, in such a manner as to facilitate their removal. I have already stated that the only direct conservative or curative effects that can be produced on the animal tissue, by artificial means, are the relaxation and contraction of its fiber, and that these operations may be aided indirectly, by furnishing the system with suitable food, and by removing whatever constitutes obstructions to vital action.

Those means and processes that produce steady and permanent contraction of fiber, are called *spasmodics* or *astringents*. Those that produce steady and permanent relaxations of fiber, are called *antispasmodics* or *relaxants*. All

substances that, in any way, excite the living fiber, are properly called stimulants; but those only that produce sudden and alternate relaxations and contractions, are generally so termed. Those stimulants that produce rapid excitement in the system, and leave, on the fibers, no tendency to either relaxation or contraction beyond the healthy or physiological standard, are called pure stimulants. Those articles that are the most rapid and volatile relaxants, and not injurious to the system, are the best emetics. Those of a more permanently relaxing character, if combined with stimulants, or with mucus, act commonly as cathartics—sometimes as both emetics and cathartics. Those that contain tannin, combined with a powerful stimulus, are called detergent, cleansing, or canker medicines (more properly anti-canker), because they are so useful in collecting together and removing morbid or obstructing material from the passages, or other lodgments, in which it may be deposited. They are also termed antiseptics, because, by this cleansing process, they remove morbid materials, and stimulate the parts to that healthy, vital action, which is always the surest protection against the degradations of inorganic agencies. For the same reason, the pure stimulants are excellent depurators. But the tannin of the astringent stimulants combines with many morbid agents, and neutralizes their influence and its own, even while they remain in the system. Hence, as depurators of the first passages, they are generally preferable to the pure stimulants. The relaxants or antispasmodics are also depurating, because they open wide the finer passages through which morbid agents must pass. I am aware that poisonous astringents, as copper, zinc, etc., are considered good emetics, but I deny the position. These will, indeed, collapse the stomach, and force out what may be loose in it for the time, but will they open and cleanse the capillary vessels of its mucous coat? If not, they are not good emetics, even though they were not poison.

But some suppose that an emetic must necessarily be poison. Will they contend that the excess of breast milk, which stimulates the stomach of the infant to depletion, is poison? If one pure and harmless stimulant can excite the stomach, chest, and abdominal muscles to reaction, so can another; and if it can be done by such a stimulant, it should never be done by a poison.

Oils and mucilages, and most articles containing them, are valuable for the relief of irritation; though some of them, as castor oil or croton, are themselves very irritating. Many essential oils are valuable for external application on this very account.

To the above characteristics of the *materia medica*, I will here add a few specimens of each class, with which the principles, I have advanced, and shall advance, may be successfully tested in practice.

ANTISPASMODICS.—Among the best antispasmodics known is—

Lobelia Inflata.—The prominent and powerful action of this article on the animal fiber is that of relaxation. This power being great and its excitement evanescent, its most valuable services are rendered in the relaxation of spasm, lock-jaw, etc., and in the instigation of emesis.

The excellence of an emetic seems to consist chiefly in the suddenness and power with which it produces its relaxing effects, and spends its force, without injury to the living fiber. In these respects, lobelia seems unrivaled. In all cases where emesis is desirable, this article is my first and only choice, if it can be obtained.

As I have stated that the principal effect of lobelia is to relax the tissues, it is evident that it should be used in all cases of fits, cramps, spasms, lockjaw, contracted sinews, stricture or rigidity of muscular structures, and morbid

tonicity of all the tissues, as in burning fever, internal inflammation, etc. No means or process ever discovered, are capable of producing a greater degree of relaxation of organic fiber, and yet nothing that can relax at all, is less injurious to the constitution.

When it can not be obtained, its office may be pretty well performed, by warm water, the vapor-bath, warm decoctions of boneset, spearmint, catnip, sage, peppermint, pennyroyal, dittany, balm, and any of the aromatic and sudorific articles of the gymnospermous or naked-seeded labiatæ or lip corolla plants. Only the first of these herbs will act with any certainty as an emetic, the rest are too pleasant in their action. But they are all useful adjuvants to lobelia.

The true therapeutic action of lobelia, I think, is not generally understood. Most persons are under the impression that it is the principal agent in producing the action which we call vomiting. But this is incorrect. All practitioners, regular and irregular, who habitually use it, agree that its effect is antispasmodic, as it instantly relieves spasms, fits, lock-jaw, cramp, etc., and relaxes contracted sinews. But it is also agreed that vomiting is produced by muscular contraction either of the chest, abdomen or stomach, or all combined. If this were the effect of the irritation produced by lobelia, that article would not be, as it certainly is, a sovereign remedy for spasms. But one will say, "How do you know that lobelia does not, like cayenne, produce alternate relaxation and contraction, perhaps by different properties contained in it, that act at different points of time?" I answer, I know it by the fact that the more vitality in the system, the less the relaxation and the more speedy and effectual the vomiting after taking lobelia; and that, on the other hand, the less vitality in the system, the greater is the relaxation and the feebler the reaction; and further, when there is little vitality, as when the patient is dying, there is no reaction at all. In what are called "the alarming symptoms," the relaxing power of lobelia completely overcomes the reacting power, and the only reason why death does not take place, is, because lobelia does not injure the organs, by destroying the nervous power or stopping the circulation; but only overcomes, in a greater or less degree, during the period of its own influence, the disposition to reaction. The nearer the reacting power of the system is to an equality with the relaxing power of the lobelia, the greater will be the struggle and alarm. As the effort of the system is now to recover its tone, giving cayenne and astringents will aid it in producing the reaction that constitutes the vomiting, which if free, always relieves the patient. Giving more lobelia throws the scale the other way, and makes him quiet a while longer. Letting him entirely alone, the lobelia, after some time, passes off, and then the reactive energy of the system meets with no resistance, and recovers the condition of its organs as a matter of course. When there is no disease, that is, debility of the organs, the lobelia has not power to relax the system much, and hence there is no room for any remarkable degree of reaction, and of course there is little or no vomiting. "But," says one, "are you sure that lobelia possesses no other control over the living body than simply to relax its several organs?" I answer, not quite sure; but am perfectly convinced that, if it have fifty other influences, this one of relaxation so far predominates over them all, as to throw them entirely into the shade. "But is not lobelia a sudorific?" Yes; but its mode of producing this effect is by *relaxing*, through nervous action, the contracted mouths of the emunctories or pores of the skin, and letting off the portion of the blood called perspiration. It also promotes the secretion of bile and urine, by relaxing vessels whose unnatural constriction is the cause of the retention of these fluids.

The object in giving here these facts and arguments respecting the modus operandi of lobelia, is to establish the point that LOBELIA IS TO BE CONSIDERED, AT ALL TIMES, AND UNDER ALL CIRCUMSTANCES, AND WHEREVER APPLIED, NOT ONLY A PURE RELAXANT, BUT THE MOST POWERFUL AND INNOCENT YET KNOWN. I wish this point to be well settled; for, if it be proved true, it at once puts to flight, from obstetrics, the use of instruments, and even manual force, in every case except perhaps the very few patients whose pelvis are known to be remarkably deformed by rickets or some other unfortunate circumstance. It also dismisses all pulleys from surgery.

I must not leave this article without repeating the remark that, though giving more lobelia during the alarm produced by a course, will check the struggle of the system for a while, yet it rather prolongs the duration of the condition. Sweet milk or sweet oil will, by combining with it, check the action of what is already taken, and a dose of cayenne and bayberry or other good astringent, will aid the vital energies in producing the reaction or vomit which puts a period to the whole transaction. Sometimes acids in the stomach check the action of lobelia, when a little soda or saleratus will aid it. This shows that lobelia for emetics, should not be tinctured in vinegar. When lobelia can not be had, other articles that are known to act like it, must be used in its stead. Thoroughwort is an excellent article, but it is not, like lobelia, a pure relaxant. The therapeutic principle of a true emetic, must be, speed in relaxation, great volatility, and incapacity to injure the vitality of the organs on which it operates. Such is that of lobelia. It is like the power that pulls a bow-string: it strains the bow quickly, and as suddenly lets it go; thus allowing it to recover its condition without injury to the elasticity. Did it act slowly, the tone of the system would gradually give way to it, and suffer the encroachment to proceed without an effort at reaction. Did it not cease to act suddenly, the reaction of the system also would be gradual, and would produce no vomit. Did it continue its power over the organs a great length of time, they, like the long bent bow, would lose their elasticity altogether. Such are poisonous relaxants. They either break the bow at once by over-straining, or they relax it so gradually as to excite little or no resistance (as tyrants fasten their claims on their subjects), or else they retain their possession until all the reacting power is destroyed. Strong astringents frequently produce emesis, but they only eject the contents of the stomach. They do not purify the whole system and quiet nervous agitation as lobelia does.

The emetic effect of antimony, copper and zinc, is the resistance the system makes to their introduction into it, as enemies to healthy action. They threaten "suddenly and rapidly to extinguish the vitality of the system," in exact proportion to the quantity given.

The administration of lobelia, etc., in warm teas, either internally or externally (in the last case it may be combined with poultices, slippery elm, oils, vinegar, etc.), is the best means yet known to relax constricted or obstructed vital organs, and the more directly we can apply these means to the parts affected, the more speedily and effectually shall we accomplish our object. It will depend upon the circumstances of the case, how long we wish to continue this relaxation. The means must of course be used as long as we wish the effect to continue; as in colds, it should be continued until perspiration is free; and in cases of parturition, besides the tea, a lobelia liniment should be used, and fomentations or other applications of warmth and moisture, should be kept about the parts to be relaxed, until the end is accomplished. In cases of local inflammation, tumors, ulcers, etc., these

relaxant properties should be combined in poultices, which should be continued until the end is accomplished. By the administration of articles which soothe the action of the nerves, the constricted vessels are enlarged and the fluids combine with, attenuate and dissolve the morbid materials that obstruct the passages.

24.—Food.

Food, as I have said before, consists of those articles which, in quantities not so great as to distend the stomach beyond a comfortable condition, nor so stimulating as to excite the organs much beyond a healthy standard, do, nevertheless, contain an amount of nutritive matter sufficient for the sustenance of the body.

KINDS OF FOOD.—In acute forms of disease the practice should be rapid, and little food should be given, until the morbid materials are chiefly removed; but, in chronic forms, nutritive food should be administered with and after the medicine.

There has always been much difference of opinion in regard to the kind of food best adapted to the wants and interests of the system, both in sickness and in health. Some contend that animal food is the most easily digested, the most nutritious and proper, especially for the sick; and they adduce to prove it, the undisputed facts that many savage nations live entirely upon it; and that the appetite of the sick often first craves soups, broths, jellies, etc., and is nourished and restored by them. Others contend that fruits and vegetables are the only proper food of man, and they refer us to the hardy and active inhabitants of the lands of rice, bread-fruit, and potatoes. While yet others maintain that a due mixture of the two is the most conducive to the true interests of the body, and they point us to the results of this mixture as adopted in society.

Many physiological experiments have been made to ascertain the different periods of time in which certain articles of food will be digested, or during which they will support the system under different circumstances. Chemical experiments have also been made to ascertain the amount of what is supposed to be nutritive matter, that is contained in the different articles of food usually consumed. Observations have also been made, for the purpose of ascertaining what length of time it is desirable that the digestive apparatus should be employed in disposing of a given quantity of food—how much should be eaten at a time, and how often repletion should be repeated, etc.

The trial of these several means of sustenance has been conducted under circumstances so various, as to render even the well-established results in each case rather uncertain data, from which to draw positive conclusions for the government of all cases. The proper consideration of these experiments, and the doctrines they would seem to inculcate, would, of itself, require a full course of lectures, and fill several large volumes; of course, I can not attempt it here.

For a vast collection of interesting facts in relation to this matter, I refer you to the publications of the American Physiological Society, and particularly to those of Dr. W. A. Alcott and Sylvester Graham. Though I do not indorse all the medical doctrines—and perhaps not the dietetics—of those philanthropists, I am free to declare that, in no place can be found, in so small a compass, and a form so interesting, such a mass of facts and reasonable and just conclusions, as are contained in “Graham’s Lectures on the Science of Human Life”—a work I would recommend to attentive perusal, reperusal, and oft-repeated reference of every one who would not

violate the laws of his being, and deprive himself of the health, happiness, and longevity which his wise and benevolent Creator has bountifully provided for him.

It is a point clearly demonstrated, that some substances, that have been taken into the system for food, are deadly poisons, immediately destructive to life ; and that others, as alcohol, long supposed to be some how necessary to our comfort, are less destructive only in degree, and unobserved in their pernicious effects on account of the power of the system to resist them ; and it is reasonable to suppose, as many have proved to their own satisfaction, that, of the articles of food whose properties are yet in dispute, some must be more conducive to the well-being of the system than others. It becomes every person, then, who values health and long life, to ascertain for himself, by careful observation, what articles within his reach are the best, and to use them in preference to others.

Again—it is equally clear, that too much food of any kind, even the best, or too frequent reception of it, is always injurious to the vital economy. The digestive organs should never be overloaded, nor forced to commence action on a new supply, till they have rested from their labor, if well, or are relieved of their burdens, if obstructed.

It has always been my opinion, then, that, if a person has no appetite after he has passed a reasonable time without food, he ought to have medicine to cleanse his system—and, if able, exercise—if not, friction, etc., to create a demand for food. When this demand occurs, I satisfy it with a small quantity of whatever the appetite craves, provided I do not absolutely know that it is calculated to do more injury than good to the body. Hence, I name to him a list of those articles which I suppose to be best for him. If he makes a selection, well ; if not, I ask him what he will have. If he asks for an article which I judged not to be so good, I do not refuse him, unless I know it to be positively injurious ; and then I do not say he must not have it, but dissuade him from it by affectionately and clearly giving him my reasons for its rejection. If I fail to persuade him, I grant him a little, telling him he shall have more if he should want it, after deciding on the effects of that ; and, if I find the effect decidedly beneficial, I make no further objections, whatever may have been my preconceived opinions on the subject. I am inclined to think, on the whole, that the vegetable food usually eaten is better than the animal, if we must eat but one, but am not sure that a mixture is not better than either alone. Of this I am fully persuaded, that some vegetable food is better than some animal, and some animal is better than some vegetable ; and that it is our duty to experiment for ourselves and learn which is best for us as individuals, and when we “buy the *truth* to sell it not.” Of flesh food, I am persuaded that the best is that of the animals which feed chiefly on vegetable substances : as the squirrel, the hare, the deer, the moose, the buffalo, the ox, the sheep, etc.; the partridge, the pheasant, the prairie-hen, the chicken, the turkey, and other birds of white meat ; and that these animals should be neither very young nor very old ; nor very fat nor very lean. That when killed, all the blood should be drawn from them, by immediately opening the veins of the neck. Fowls should be beheaded and hung up by the feet. Of all animals, the muscular portions are the most wholesome ; and the glandular and fatty the least. They are the most *innocent*, when broiled or roasted ; or boiled and the grease removed from the top of the water. But they are not always *preferred* in this state. Animals that feed on flesh, as wolves and hawks, and those whose flesh has a strong, disagreeable scent, as muskrats, are not fit to be eaten at all. And those whose flesh is dark and greasy, as

ducks, geese, etc., are not very good. Neither are very fatty animals, as bears and hogs. But if these are fed wholly on corn, roots and fruits, they are better than beef fed upon the slops of a still-house, or the meat garbage of a hotel. The milk of a cow fed wholly on sweet grass, hay and grain is good; but that of one fed as above, is not fit to be eaten. Such milk produces much disease in the children of cities. Even the hog, though naturally filthy, if fed wholly on grass and grain, is better than the ox fed on the slops of a still.

Many kinds of fish are both less injurious and less nutritious than vegetable food. I have seen but little objection to trout, salmon, shad, blackfish, perch, pike, codfish, sheep's-head, nor much to fresh mackerel and herring, nor to either of these salted, if *well* cured. But they are not well suited to the weak stomachs of the sick. The oyster agrees well with those that have been accustomed to eat it.

But no meat of any kind is so nutritive and wholesome as vegetable food. I would rather have two very moderate meals per day, of good vegetables and fruits, than three full meals of any meat diet. Thus fed, I am less inclined to be hungry and fail, and more able to endure severe exercise, mental or bodily. Others may think as they must, I have no doubt that wheat, rye, oats, corn, rice, barley and buckwheat; full grown potatoes that become dry and mealy when roasted or baked, or boiled and dried, and have no acrid taste nor smell; sweet potatoes, parsnips, turnips, artichokes, asparagus, radishes, peas, beans; apples, pears, plums, peaches, apricots, cherries, tomatoes, melons, squashes, pumpkins, strawberries, raspberries, blackberries, gooseberries, cranberries, currants, whortleberries, blueberries, grapes, figs, oranges, etc., when properly prepared for the table, are the best kinds of food for man; and I am as sure that many of them are also excellent as medicines. Thus the acid fruits are antiseptic, stimulant and mostly aperient; watermelons, asparagus, radishes and turnips are diuretic; unbolted wheat-bread, tomatoes, boiled turnips and beans are relaxing, and peaches, plums and cherries are aperient, tonic and restorative.

Of the vegetable substances ordinarily eaten, some are not very easily digested; as carrots, beets, onions, cabbages, cucumbers, small and wet potatoes, and the oily nuts.

Of "greens," spinach leaves and tops, turnip tops, potato leaves, dandelion leaves, mustard leaves and tops, cowslips, kale, etc., are among the best.

For the sick, especially, all food is generally the best when prepared in a very simple form.

25.—Exercise as a Restorative.

As soon as the system obtains, by the use of medicine, relief from the action of the causes of disease—at least as soon as those causes and their effects are removed—attempts should be made to restore its energies, not only by the use of good food and stimulants and tonics, when necessary, but also by exercise. Whatever exercise can be taken without fatigue, should be taken as often as the system is thoroughly rested from its effects, until the ordinary strength is renewed. If the patient is too weak himself, he should be assisted by his attendants, who can aid him by leading, or lifting, or conducting him in carriages, or by friction to the surface. If subject to cold feet, hands and surface, he should stand on one foot, upon a stool or stair-step, and swing the other in a condition of loose suspension, holding meanwhile to a bed-post, a chair, or the wall, to keep the body steady. When tired of standing on one foot, he should change to the other, and, when tired of both, stand on the floor, and rub the limbs with the hands. When these are warm, he should

swing the hands back and forth, striking them together behind and before the body, and rubbing them together now and then, until all are warm. If the general surface is cold, it should be rubbed all over by the hand, and aided by the vapor-bath and stimulating liniments.

26.—Astringents.

The articles that come under this class, must contain a predominant portion of tannin, the bark of bayberry, sumach, white, red and black oak, hemlock, witch hazle, Jesuit, alder, black cherry, black birch; the berries of Jesuit and choak cherry, *cerasus serotina*; the roots of blackberry, grape-vine, geranium maculatum, etc., the leaves of witch hazle and raspberry, and any thing known to be innocent, which puckers the mouth on using it, but does not leave it too dry.

27.—Stimulants.

These, in their purest state, possess little else than the power to increase the physiological or healthy action of the system beyond its ordinary degree.

CAYENNE is considered the most powerful article of this class, and is unquestionably the best known to raise the suspended energies of the system in cases of paralysis, cold, drowning, swooning, general prostration, etc. But it is often used improperly to promote perspiration in acute fevers, etc., where action and heat are in excess, and a relaxation of the constricted tissues would do the work much better, with less unpleasantness to the patient. The aromatic herbs just mentioned under the head of substitutes for lobelia, possessing both relaxant and stimulant qualities, are far better than cayenne in acute inflammatory cases. In chronic cases, of arterial as well as muscular debility, cayenne should be used with them according to the degree of deficiency of vital power to answer the present necessities.

Among the substitutes for cayenne, may be ranked the common red pepper, the best ginger, (sound, heavy, dark colored, brittle, powerfully and permanently pungent); prickly ash bark, snakeroot and any other innocent article that produces a permanent pungency to the taste, without nauseating or contracting the mouth.

The above three classes of remedies, comprise all the principles, of all the remedies we want for any and every form of disease. But they are so associated in many different native combinations, as to give names to several other classes of remedies, as canker medicines, tonics, or bitters, emollients, antiseptics, diaphoretics, sudorifics, diuretics, etc.

28.—The Canker Medicines

Combine such a degree of stimulus with tannin, as to excite the system to rid itself of what the tannin collects in the form of condensed phlegm, etc. The articles in which I have found this balance the most perfect, are the bark of the root of bayberry (*myrica cerifera*) and the bark and leaves of the sleek sumach (*rhus glabra*). The bark of some of the cherries, of hemlock (*pinus abies*); the leaves of red raspberry, blackberry and a multitude of shrubs and herbs of the rosaceous order, are very good for this purpose. Almost any innocent articles containing both tannin and stimulant properties, may be rendered useful in removing canker, by combining with them others of a relaxant and emollient character. The *coptis trifoliata*, or gold thread, and the bark and leaves of barberry, are excellent canker medicines, but they are scarce. It is always important to select those articles that can be easily

obtained. This class of remedies is often called detergent, depurating, secerent, etc.

Composition.—The canker medicines, in powder, are often combined with each other, and with ginger and a little cayenne and cloves, constituting what is called composition. Different physicians compound them differently, and of different articles, as they find it convenient. The following is a good formula:

R. 2 lbs bayberry bark, in powder;
2 lbs best ginger, in powder;
 $\frac{1}{4}$ lb asarum root, in powder;
1 3 cloves;
1 3 cayenne.

Mix well together by shaking them in a large glass bottle until no one of them can be distinguished from the rest.

29.—Tonics.

The tonics, which are mostly bitter, are those articles which, while they stimulate the organs to a regular discharge of their morbid contents, also strengthen them to the performance of their ordinary duties, and enable them to protect themselves against further injury. Some suppose also that the bitter principle they contain is useful for supplying material for bile. This bitter principle may be combined with tannin, as in birch, or with antispasmodic or relaxing qualities, as in bitterroot or butternut. The bitter principle is itself a stimulant to the salivary glands, and to all other organs to which its properties are communicated. As these articles serve to remove canker, and thus to aid the system in recovering its healthy action and power, they are called tonic, even when there is not a particle of astringency in them. A tonic then, is an article whose manifest general effect is to strengthen the system.

30.—Spice Bitters.

The different articles termed bitters, are often so combined in relation to their relaxant and astringent properties as to be neither relaxing nor constituting; and, united with a little cayenne, cloves and sugar, so as to constitute what are called spice bitters. Sometimes canker medicines, as bayberry, constitute a part. Equal parts of poplar, golden-seal, and balmony, or boneset, with one sixteenth part each of cloves, cinnamon and cayenne, and one part of good dry sugar, make good spice bitters. If any of these articles can not be had, others similar will do.

31.—Emollients.

These are articles that contain a large portion of mucilage, by which they preserve moisture about an external part and exclude the air from it, or lubricate internal structures that are liable to be injured by friction, and thus allay their irritability. They are such as slippery-elm, *ulmus fulva*; basswood, *tilia glabra*; some species of mallows, of soapwort, *saponaria*; and any mucilaginous plant that is known to be innocent, which the scientific botanist can find in a few minutes in any field or wood. These are excellent for poultices, and to allay internal inflammation, irritation, thirst, etc., and should be applied freely to all parts where they are needed. They are much used for poultices.

Antiseptics, properly so termed, contain tannin, gums, resins, acids, etc.;

but any stimulant that loosens the vessels and removes morbid matter from them, proves so far antiseptic.

Diaphoretics are those articles whose relaxing and stimulating properties are moderate, and about equally balanced.

Sudorifics differ from these only in being more powerful, and

Diuretics are those which more particularly promote the action of the kidneys. The warm and vapor-bath and sponging with warm, cool and cold water, according to the temperature of the surface, are also to be freely used for these purposes.

Oils also are useful to allay irritation and to favor the healing process.

It may seem strange to those who have never studied the anatomy and physiology of man, or to those who have studied them under false impressions, that these three classes of articles comprise all the remedial agents in nature; but, as I know of no other kinds of action in the system than those I have described, so I see no necessity for any other classes of remedies than those which will infallibly produce such actions. In all my practice, I have never needed any other *curative* means or processes than these here described. I can find articles of these several classes, in almost endless number, but there is no necessity for searching after specifics for particular forms of disease. Indeed it is evident, from the principles laid down, that there can be no such thing as an article that will cure one form of disease, that is not equally good for other forms requiring the same agency.

I must not forget to mention here one means and process of removing disease which might, perhaps, by some, be considered medical—I mean that of destroying tumors, proud flesh, etc., by means of escharotics, as the caustic potash. But this is a destructive, not a healing process. The business of neutralizing acids in the stomach by means of an alkali, is not entirely safe. It is a relic of the old practice that will be superseded by better means. It is a chemical destructive, not a vital curative process.

I have now shown the nature of disease, its general causes and its modes of attack. In former numbers, I have shown the general indications of cure, and have given the general modes and means of cure. I shall now describe the application of a general method of removing from the system both those causes and their immediate effects, under the head of "a course of medicine," and then take up the principal effects produced commonly called the symptoms of disease, and show how this course should be varied in different cases. A course of medicine is a summary process by which the primary passages, the excretory passages and all the depurators of the body, are so relaxed and stimulated as to enable them to cast off, in a few hours, a part of, or all the irritating or morbid matter they may contain. It is a prompt, judicious, and thorough application of the most efficient means of medication that are calculated to break the force of disease, and entirely relieve the patient, at least for the present, of its deadly influence. Its object is to relax constricted tissue, to stimulate it to action, and to neutralize morbid agents and remove them from the body. The agents are, aromatic, nauseating, stimulant and astringent teas. Alkalies are sometimes needed to neutralize acids and acids to oppose an alkaline condition as a drink in fevers. I have already stated that it should be varied according to the condition of the patients. In this description I shall mention nearly every article and process that is ever required, leaving the choice to be made when treating of the different forms of disease. Previous to a course in chronic cases, it is well, if you have opportunity, to warm up the system a day or two, with composition, cayenne or ginger tea. But if the stomach is very foul give an emetic at once.

32.—A Course of Medicine.

In my first edition, relying upon the judgment of Dr. Thomson and others, I recommended the bath before an emetic; but experience has taught me that, whenever it is certain, as it is in nearly all chronic cases, that an emetic is needed, it should be given before the bath, to prevent the absorption of the morbid matter from the stomach into the general system (which the bath favors and promotes), and, because, the surface being closed, and the circulation determined inward, the vomiting will be more prompt, easy and effectual, to remove what is in the stomach. A closed surface is a sort of fulcrum to aid vomiting. If we open it freely before giving an emetic, that fulcrum is lost and lobelia escapes by perspiration, relaxes the system and renders reaction slow and incomplete. After the vomiting, an enema of cayenne, slippery-elm and a little lobelia, will settle the stomach, clear the bowels, and prepare the system for receiving the greatest benefit from the vapor-bath.

As soon as you determine to give a course of medicine, in a cold, languid, debilitated or chronic case, give a little warming medicine in some form, to commence raising the action of the system. For this purpose, carry about you a little bread of life, ginger or cayenne lozenges, or a small vial containing a little cayenne and simple sirup or honey or good molasses. Say a common teaspoonful of good cayenne in a two-ounce vial of sirup, etc. A teaspoonful of this sirup, in a little water if you choose, is excellent to warm the stomach and bowels, to relieve pain and diarrhea, to remove a slight cold, to give the patient a favorable impression of the treatment to follow, and to convert by-standers to the practice.

Put a tablespoonful of composition powder or of equal parts of bayberry, sumach leaves or other good astringent, with a little cayenne and Jamaica ginger, and some pleasant aromatic, as asarum, pennyroyal, cloves, or cinnamon, or sassafras, into a quart of boiling water (upon the top of the water, and let it fall down without stirring it). Then stir it well and let it settle again. Pour off half a teacupful, put in cold water enough to cool it so that it can be drank freely, sweeten it to the patient's taste, and give it. Repeat this three or four times at intervals of five to eight minutes. Into the fourth or fifth cup, put a well heaped teaspoonful of good lobelia leaf, pod, and twig, finely powdered, or a moderately heaped teaspoonful of the powdered seeds. Stir it once or twice, strain and press it hard (through a strong, thick cloth), sweeten to taste, and give it. If the patient is not easily nauseated, the powder may be stirred up and given with the tea. Continue to give the composition tea, a teacupful every five minutes, making more if necessary, and pretty strong, until the stomach is well cleansed, which will generally be the case after vomiting *freely* from twice to four or five times. If little else is ejected than the tea, no more lobelia needs be given at this time; but if the vomiting ceases while thick, ropy phlegm is still ejected, give another spoonful of lobelia in another cup, and continue the composition or bayberry, or other good astringent tea, until the stomach is well cleansed, and the patient feels easy. If there is evidence of acid in the stomach at any time, put into a cup of the tea a fourth of a teaspoonful of soda, or a little less than that quantity of saleratus if you have no soda.

If you think that the patient has nearly done vomiting, give him a little warm milk porridge if his stomach has been sour, or corn gruel if it has not; or let him have his choice between these and the teas. If he sickens and

does not vomit, put a little cayenne into his gruel. If this does not suffice, give him a cup of the composition tea with a teaspoon nearly full of fine bayberry and a little cayenne in it; and lastly an enema, of the tea and a little cayenne and slippery-elm. It is often sufficient to let him smell of a cup of lobelia tea, or even to *talk* about giving him "a large dose," without actually giving it. But if the porridge or gruel sits well and produces no nausea, he is probably done; or will vomit before long. *Remember always*, that, when he feels nauseated or much relaxed and can not vomit, he needs *not* lobelia, but stimulants and astringents. Giving more lobelia in this condition, though it does not kill, produces the relaxation and provokes the reaction which have been called "the alarming symptoms," and which are not often essential to the cure, though the condition has sometimes proved very salutary.

The tea to aid lobelia in cleansing the stomach in cold chronic cases, should be stimulant, aromatic and slightly astringent.

Among the best articles are, cayenne, and ginger, as stimulants; bayberry and rhus glabra, as astringent, and stimulant; asarum, and spearmint, as aromatic and stimulant. Hemlock, geranium, etc., are astringent, chiefly; allspice, cloves, and sassafras are stimulant, astringent and aromatic.

Teas may be made of any of these or others like them, to suit the cases, and any one, two or three of them that involve the three principles above named, may answer when you have not those you may prefer.

Some persons require a larger quantity of lobelia to relax and nauseate them so as to excite the reaction of vomiting; others are sufficiently nauseated by an even teaspoonful of the powdered leaves. So the same person requires different quantities at different times. My friend Dr. C. Rice of St. Charles, Missouri, just now at my elbow, informs me that one tenth of a teaspoonful of the bruised seeds of lobelia, given in *cold* water, is as good as three teaspoonsful in hot water. Sometimes the lobelia will be thrown back immediately after it is taken. In this case another small portion may be given. Remember that lobelia relaxes and nauseates; and stimulants and astringents excite the vomiting. If the first course of vomiting does not cleanse the stomach thoroughly, it may be immediately repeated by giving more teas and lobelia as before.

The above is an *average* treatment for adults. From one tenth up to this quantity, will be sufficient for children from one to fifteen, varying in each case according to the impressibility and condition of the patient.

In many instances I have repeated the emetic two or three times; in one case five times in the same day, and with the most decided benefit. That day's work did the patient more good than six days' work would have done, had she taken but one emetic per day. And I still find cases in which the same persevering treatment succeeds after the patient and all his friends and physicians have given him up as incurable. Of course it is followed by baths, tonics, good food, exercise, etc.

In my first edition I gave the following directions for administering an emetic "in a cold, languid, debilitated system and chronic case."

"As soon as you have determined to give a course of medicine in a cold, languid, debilitated and chronic case, give a tenth of a teaspoonful of cayenne in a little milk, honey or molasses, to commence raising the action of the system. [In some cases this will scarcely be felt, and is then not too much; in others it will be severe and give pain in the stomach, when it should be less.] I always carry in my pocket, a vial of cayenne and molasses [simple syrup with cayenne a teaspoonful to two or three fluid ounces of the syrup].

or some kind of hot preparation [as conserve or hot lozenges, for present relief, or to save time in commencing a more thorough treatment]. It is excellent to relieve pains in the stomach and bowels, diarrhea and slight colds, and to convert the enemies of the practice. Into a quart of boiling water put a large tablespoonful of canker or composition powders, mix well with as much good sugar; after it settles, stir until the powder is well wet; after it settles again, pour out a teacup half full, dilute with a little cold water, and, if canker tea, add cayenne enough to make it as hot as composition would be, and then give it. Pour out another teacupful and set it on a table or a window to cool. Pour out half a cup, and put into it cold water until it will not burn your mouth, and four teaspoonsful of the powdered herb or three of the seed of lobelia, and let it stand where it will keep warm. [I have since found by experience, that this is three times as much as is necessary in ordinary cases, though none too much for some, and that it is better not to prepare lobelia tea until it is wanted.] Give the second cup of canker tea about ten minutes from the first [better sooner], and the third ten minutes from the second. [I recommended here the application of the bath, which I now prefer, for reasons just given, to postpone until after the emetic]. Give another cup of tea and, soon after, a cup of the emetic first prepared. After ten minutes at most, whether the patient vomits or not, give more tea, and soon afterward as much more of the emetic as you can pour off clear from the powder. [I now give stimulants and astringents, instead of more emetic.] Now, follow up with tea every five minutes or so, making more when necessary, until the patient has vomited at least once freely. Fill up the cup of lobelia with composition tea, and, after it has stood two or three minutes, strain and press it, and, if the patient is not sick nor weak, give it; continue to give the teas until the stomach is cleansed and settled, making them as stimulating as the case requires, and adding a little soda or saleratus [the size of two garden peas of the first or one of the second] whenever there is acid in the stomach, and rubbing dry the surface as often as perspiration is profuse. Keep at the feet something warm, as a gallon jug or canister of boiling water, which is much better than steaming stones, except in cases of burning fever, and then it is good if the cloths be wet. It is more equal, will last ten times as long, and is everywhere convenient. If the patient is very sick, full of tea and can not vomit, give him half a cup more of the tea with a little bayberry and cayenne in it, and this will do the work. If his stomach cramps (which very seldom occurs), give him weak lobelia [or spearmint] tea. If it burns, give a little sweet oil or milk porridge; and, if you are *sure* it is sour, a little soda or saleratus—not more than the size of a large garden pea. Continue the canker tea, with bayberry and cayenne if necessary, until the stomach is free from morbid matter and settled; in weak chronic cases, using porridge or gruel freely after the first thorough vomiting. It will often seem as though the stomach were sick when, in fact, the disagreeable feeling is caused by mere emptiness; this will be removed by a teacupful of porridge. If the stomach refuses to settle [after the phlegm and canker, and sometimes yellow bile are removed], give an injection of the tea and a little slippery-elm, and the patient will either get easy or vomit. If he still sickens and does not vomit, give more tea with cayenne and bayberry in it, as before, and rub the gastric and the spinal region with your hand, and lastly apply the vapor to him, if he is able to sit over it; if not, let him rest awhile and he will rouse and vomit. If one emetic does not give essential relief give another after an hour or two; then give the vapor-bath and keep up, by stimulants and tonics, the advantage gained. While the patient improves fast, full courses are not

necessary ; though the baths may be often repeated. But if he has no appetite and sinks, repeat the emetics, etc. Wherever it can be had, a steam-pipe and stop-cock connected with a boiler, is more convenient and easier to regulate than rocks and bricks.

33.—The Vapor-Bath.

After the patient has rested half an hour or an hour, from the operation of an emetic, or slept if he has chosen, give him a vapor-bath, thus : having heated in the fire half a dozen hard half bricks, or porous rocks of nearly equal size, to full or partial redness, put a vessel, as a wash-basin, under a common basket or cane-bottom chair, and put into it two quarts of boiling water ; put before the chair (face toward a window or door) a pail two thirds full of water, as warm as the feet can bear ; put the patient in the chair (the bottom covered with a thick cloth or double towel) divested of all his clothing, and surrounded, chair and pail, to the floor, with a large, thick woolen blanket, or two, if one is not large enough, and covered with a sheet, if the blanket be thin or have holes in it, his feet being in the pail of warm water before the chair, let its folded ends be pinned behind, and its upper edge or side around the neck. If this be done on a carpet, let there be first spread down a piece of old carpet, or comfortable, to absorb the perspiration and water that will fall from the patient. Now give him some warm tea of ginger, asarum, sage or catnip, and take, in the tongs, one of those hot bricks and go behind the chair, open the blanket at the floor and let the brick down *gently* into the water, to generate the vapor. Hold on to it, so that you may lift it out, if it make too much, until it will settle altogether into the basin without raising too much heat, when you may let it go. Now wash him all over, under the blanket, with warm, soapy water, and close it. As some bricks become cool put in others, until he perspires freely and becomes warm. Let the patient loosen the blanket from the body, by putting his hands between it and the knees, etc., and let a by-stander lift it from his shoulders. If the vapor becomes too hot, open the blanket above and at the bottom, and let through a current of cool air, fresh from the window or door (the top of the window is the best), open from the time he is covered in the bath. If the water at his feet becomes cool, put more hot water into it. If he is fainty, stop the vapor, and dash cold water in his face, on his breast and down his spine ; give him some to drink, take hold of the back of the chair, and lean him back until his head is low, wetting his face often with cold water, until he recovers strength ; then raise him over the vapor and warm him again. Now dash a little cool water in his face and on his breast and spine ; and, if this is pleasant, all over him. Wipe him dry, and if he wishes to sit up, put on his clothing, seat him in an armed chair, in which a blanket or a comfort is spread ; or, if he prefers it, put him in bed, with a bottle of hot water to his feet, giving him, in either case, a little ginger tea, and keeping the room comfortably warm, and well ventilated. The baths should be repeated every day, until the perspiration becomes free and general, then every two days, at most, for a week, then every three, for another week, then every four, five and six, until the patient is well.

The bath may be given thus :

Put two strips of board about two inches wide across the top of the largest wash-tub about the house, in such a manner that you can set an open, flag or split-bottomed chair upon them, with the back feet directly over the edge of the tub. Put into the tub a common wash-basin, or other small vessel, and

then place the patient upon the chair, covered only with a blanket, pinned round the chair and tub, so as to exclude all the air except from the face. When the face swells or puffs as in dropsy, erisipelas, and mercurialis, I cover the face also with the blanket, or shut up the patient entirely in the bath box. This is better for the headache than cold water, for it promotes perspiration and relieves the inflammation and congestion. As soon as he is seated, open the blanket a little at the bottom, and pour into the basin from a tea-kettle (which must always be ready) about two or three quarts of boiling water. Now wet him all over, under the blanket, with water as warm as is pleasant to him, and give him a little more weak composition or herb tea, and take, with the tongs, a brick or rock from the fire, put it partly into the water, but still hold it fast (resting the tongs on the edge of the tub) until it is so much cooled by gradual depression into the water, that it will not make too much vapor, when you may let it entirely down into the basin and leave it there until it ceases to make enough, when you should take it out of the basin and leave it in the tub, on the side where the patient feels the coldest. Give a little tea, with cayenne, if necessary, every time you change a brick. Take another brick and use it as you did the first. If sickness at the stomach occur, the patient's face being red, the muscles strong, the body restless; give a little tea with cayenne, dash a little water suddenly in the face and on the breast, and he will soon vomit and be relieved. If faintness, weakness and pallor occur, lower the heat by removing the stone and opening the blanket about the neck, and dashing the face, and, if necessary, the breast with cold water; and, if this is not sufficient, take hold of the back of the chair and pull it back (seating yourself in another), until the head is quite as low as the pelvis, and retain him in that position, giving warm teas, and occasionally sprinkling the face and breast suddenly with cold water, until he recovers his strength, when he should be raised up again, and the vapor applied until he gets warm. I have sometimes held a patient in my lap and arms in this way for two hours, letting pass under the blanket from the basin or a pipe, just vapor enough to keep the air warm about him. He would be as cold as clay the whole time, and unable, through weakness and chilliness, to lift a hand to his head, or in many cases, even to speak, until the cold fluids were all expelled and the heat pervaded the system, when the strength would return and he would sit up and receive a fine bath, during which he would be very amusing in conversation.

Never measure your baths by minutes or hours. The object of vapor bathing is, in cases of cold, to open the pores and let out the perspiration. In patients filled with cankery fluids, it is to carry out the virus that may be afloat in the system at the time, and to excite the skin to action by the stimulus of heat. The first will be accomplished when the patient sweats freely all over, and his flesh is hot, particularly on the knees, and the tops of the feet just back of the toes. The second should be continued as long as, by giving freely of the pleasant tea before mentioned, with occasionally a little cayenne, he can comfortably endure it.

A gallon jar, or other bottle of boiling water, is an excellent article, much better than steaming stones, except in cases of burning fever, and then it is good, if the cloths be wet. It is more equal, will last ten times as long, and is everywhere convenient.

A convenient apparatus for vapor bathing, may consist of eight or ten pieces of tin or copper pipe from a half to three quarters of an inch in diameter, so constructed that the small end of any one piece will just fit into the large end of any other. Two of the pieces should be knees extending about an inch

each side of the joint, two inches long in the whole, and making an angle of one hundred and thirty-five degrees or a right angle and a half. Take a common brass stop-cock, drive out the stopper and saw it with a keyhole saw, from one side of the hole down to the lower end ; saw off the other side at the top of the hole, smooth the remainder and put it back again, but do not fasten it. Let the coppersmith or tinner solder a tube an inch or an inch and a half long, to the little circular projection directly below the stopper, the lower end of the tube being rather smaller than the upper. Let now a thick copper plate be made in circular form, large enough to cover the top of a large tea-kettle ; bore a hole through the center one fourth of an inch in diameter, and make a screw three inches long with a high flat head and a flat smooth shoulder to cover the hole. Make a flat iron bar, half or three quarters of an inch wide, one eighth of an inch thick, and just as long as the diameter of the copper plate, and cut a screw hole in the center to fit the screw. Now make a hole in the copper plate an inch from the central one, to fit the tube that is soldered on the under side of the stop-cock. Put the screw through the plate, and just insert it into the bar below ; then put the bar into a tea-kettle, lift it until it touches both sides, and turn the screw until it brings down the copper plate close to the kettle. To make a good fit, the plate should be bound round the edge with a strip of cloth an inch and a half wide, with fine twines so run along its edges as to tie above and below the plate, and draw them like the lining of a hat, or it may be made of two circular pieces sewed at the edges and the center cut out. Put the tube of the stop-cock through the hole of the plate, and fit the first piece of pipe on it. This plate has another hole on the other side of the center for the purpose of inserting a small funnel and pouring in more hot water when necessary. This is stopped (except when filling the kettle) with a cork or piece of wood. The joints enable the practitioner to direct the vapor either into the tub, to the floor or into the bed. This cap will fit on any tea-kettle and constitutes a complete bathing apparatus. By turning the stopper, you may regulate the vapor at pleasure. The tub protects the carpets or floors from being wet by the perspiration and the water that may be dashed on the patient, and elevates him to a proper height above the condensed vapor, and prevents the cold air from coming up under the blanket ; but, if it can not be had, the chair must be put upon the floor and the processes conducted as I have already directed. A narrow and low cot frame, covered with very open cloth, should be provided in houses where there is a very weak patient that will need many bathings. I have bath boxes that come up to the waist, containing an open seat within, and requiring a blanket only around the neck, shoulders and chest. They hold water at the bottom, near which, at one end, is a hole to admit the vapor pipe. I like these boxes, because they admit of the utmost convenience in handling the patient, and keeping the lower extremities warm. They also allow the tying of a towel or handkerchief around the waist, so as to confine the vapor below it—a practice of great importance in removing obstructions from the pelvic regions. Vapor confined below the waist in this manner, may often be applied so long and so efficiently as to remove obstructions from those parts, when, if it were permitted to come up to the chest and neck, it would so fatigue and exhaust the patient that you would be obliged to remove him before his feet were scarcely warm.

When vapor bathing is necessary.—High heat is a tonic. When the skin is cold, lax and clammy, it has lost its tone or tension. Hot vapor will stimulate it to a natural action, and enable it to hold the heat of the body in

quantity sufficient to keep the whole warm. If the skin be very hot and parched, its tension is too great. Sponging with cool water and drinking bland fluids in this case until the perspiration is free, is better than hot bathing, as there is so much heat directly under the skin that none is needed outside of it. After giving emetics and injections, which let down the inward action and take off the tension of the skin, the vapor may be applied to advantage, and it will aid in removing the morbid matter from the capillaries, and deep-seated glands, etc. If the skin be dirty or scurfy, though it be neither parched nor clammy, hot vapor is necessary to cleanse it. If it be clean, of natural color and temperature, and so active that a cup or two of weak cayenne tea will excite a perspiration, but not be succeeded by chills, and the extremities be not cold nor inactive, bathing is not necessary.

Food in the Course.—Weak patients and those that have not lately eaten, should have milk porridge, or chicken broth, or beef tea, or rice water, or toast water, or some such nutriment, after the first free vomiting. After the course is completed, a little pleasant bitter, as peach or cherry syrup, or some similar compound should be given, and then the patient may have a little dry toast, a cup of milk and water or chocolate, mush and milk, a little broiled venison, fish or dried beef, or indeed any thing he craves, and at this time he will seldom be inclined to eat too much. The demands of the appetite at this time, though often very singular, are, in my opinion, our best guides to what is proper for food.

A little spice bitters or cayenne and golden-seal, or ginger, or a teaspoonful of the cayenne and molasses mixture, taken soon after, will prevent it from hurting him. When the patient craves something solid and salt or acid, give him a piece of broiled fish, bacon or dried and broiled beef, with vinegar and cayenne, which I have never known to hurt any one that craved it. Though, for a well person, and, in general, I prefer vegetable food to flesh; yet, when the stomach is very weak, it wants something that will digest quick, lest it should sour and fill the bowels as well as the stomach with carbonic acid gas, producing distressing colic and pain at the pit of the stomach.

But he frequently desires to go to sleep, and then he should be permitted to do so, and be fed when he wakes. If he has perspired freely during sleep, he should be rubbed dry, or bathed again and rubbed dry and be dressed with dry clothes.

34.—Course in Relaxation or great Debility.

In all these cases, the course needs to be stimulating and tonic. Composition is the best tea through the whole course, and the system should be well warmed by this and by injections. If there is great sluggishness, cayenne should be added occasionally. The emetic should not be given until the stomach is pretty full of tea, and then given in a strong dose, and not often repeated, as small doses, often repeated, keep the system prostrate. When the patient is sick and does not vomit, and you think he has fluids enough, say a pint or more, within him, rub his spine up and down with your bare hand, and request him to contract his diaphragm and abdominal muscles as if he wished to shorten his waistband. This will produce a real scientific vomit. Persons in this condition, are the most easily thrown into what are called "the alarming symptoms," or a temporary relaxation beyond the power of reaction. It is produced by giving frequent doses of lobelia under the false impression that this article is the principal agent in producing the act which we call vomiting; whereas, it is the reaction of the system against its relaxing influence, that produces the vomiting. But these alarming symptoms are

seldom heard of since I explained their character in the Recorder and Obstetrics. The patient, in these cases, should be made to vomit until the stomach is clear, and to perspire until the emunctories or pores of the skin are free; then he should be well toned at the surface by dry rubbing and, if necessary, by occasional applications of cayenne and vinegar to the surface. Cayenne and bitters should also be given internally two or three times a day, until the system has recovered its tone. But proper exercise and a moderate quantity of good food, are to be depended on for the cure.

35.—Course in Constriction.

When there is a general burning fever over the surface and a sense of inward heat and thirst, or great tension of any part of the body, from any cause, give warm, bland fluids of the sudorific kind, or sage, catnip, pennyroyal, etc. (without cayenne or composition), and wash or sponge the surface of the body with water or very weak ley of an agreeable temperature, until the excessive heat is evaporated and the surface becomes relaxed, and of a healthy color and texture and the perspiration is free. If the surface only is affected, this will soon take place, and a comfortable bath will be all the patient wants. But, if these operations make him sick at the stomach, give an emetic, and, if the bowels are relaxed or constipated, give injections and baths afterward, rubbing thoroughly dry before putting on the dress.

If the fevers refuse to settle when the perspiration is free, and no cayenne nor composition is given, then there are internal obstructions of the bowels, the liver, the kidneys, the lungs, the brain, etc., and lobelia must be given in small doses, frequently repeated, until the arterial action is reduced, and the pulse becomes as slow as natural, and more full. These constricted conditions of the system are called acute, bilious, typhus, congestive, inflammatory, puerperal, etc., and spasms, cramps, tetanus, etc.

I am aware that many suppose some of these forms of fever to be of a low grade and to require stimulus; but I am as sure that they mistake oppression for debility, and that their stimulation before relaxation, is wrong.

Whenever a strong fever has existed for a day or two, the stomach becomes filled with phlegm and canker, which should be thrown out before bathing, as that process causes the foul matter to be absorbed into the venous radicles of the stomach and carried through the general system.

These forms of stricture will be greatly relieved by giving, on going to bed, a pill of bitterroot, lobelia seed, cayenne and nervine, equal parts, rolled up in slippery-elm. The relaxants will act on the liver and lungs, to relieve them of obstructions, and the cayenne will help the organs to remove those obstructions and keep up a sufficient determination to the surface to prevent weakness by depletion.

In croup, hooping cough, asthma and all oppression of the lungs, where the arterial action is not high, cayenne should be given with the relaxants, lobelia, etc.

In fits, the system should be thoroughly cleansed by a course, and then the action should be kept up by stimulants and tonics, until a proper diet and exercise can maintain it without them, and the patients should be magnetized. I have cured with magnetism alone, cases of the most obstinate character.

36.—Course in Local Excitement.

In local inflammation, the part should be soothed as much as possible, by absorbing away the excessive heat, as directed above for the surface in the

case of a burning fever, and by relaxing the irritated organs so that they may rid themselves of their morbid contents. It will also be found, in these cases, that the other organs and portions of the system are not fully performing their part in the great business of physiological action, and they must be made to do their duty. For example, when the bowels are constipated, the surface is evaporating too much of the moisture of the body, and should be better toned. When the bowels are relaxed, the surface evaporates too little of the moisture, and should be opened and stimulated to action. I have never known the promotion of a proper action of the surface, fail to correct any irregularity of the bowels; so a free action of the surface relieves inflammation of the lungs, stomach, liver, pleura, peritoneum, and any other internal organ. To put into equal and proper action, all the other organs of the body, is indispensably necessary to the relief of those most afflicted with irritation and inflammation. In the discharge of a poisonous virus, however, as the mercury in ptyalism or salivation, the poisonous vegetables, or the specific causes of measles, small pox, scarlet fever, itch, etc., the organs affected should not be checked by any other means than by aiding them through the instrumentality of others, to clear themselves. In salivation, use cayenne in the mouth, at the same time that you promote an action of the surface and cleanse the general system, until the saliva becomes healthy when it needs not be continued.

In scarlet fever and, except small pox, all eruptive fevers, as measles, heat, rash, etc., keep up the action and cleansing of the surface with sudorifics and bathing until the cause is entirely removed from the system. In small pox a moderate coolness of the surface seems to prevent the pustules from spreading and becoming confluent.

37.—Course in Paralysis.

In the treatment of paralysis from compression, remove every cause, give a general course or two, and stimulate by electricity and by friction of the parts affected, with the vinegar tincture of cayenne or the compound tincture of cayenne and lobelia. Bathings should be frequent and thorough.

Corns should be soaked and shaved as closely as they will bear, then covered with a piece of oiled buckskin or thick flannel, with a hole cut directly over the center of the corn; then, with two or three repetitions of the soaking and shaving, large shoes and woolen stockings will effect the cure.

38.—Course in Lesions.

These are very numerous and of three kinds :

1. *Abscesses and sores.*—In addition to a few courses, modified according to the states of the system, to cleanse the blood, abscesses and sores should be poulticed with materials suited to their condition. (See poultices.) If they are hot, inflamed and painful, the poultices should be cooling and relaxing, and kept moist. If they are cold and clammy and full of corruption, the poultices should be hot, stimulating and relaxing. If there be proud flesh, it should be touched with an escharotic, as the clover or sorrel plaster, or caustic potash, until it yields, then use the poultice as before. When the sore is thoroughly cleansed so that it discharges no morbid matter, it may be healed with salve, as that of elder, mutton suet and balsam of fir.

2. *Cancers, Wens, etc.*—These require the application of the sorrel until they suppurate, then poultices until they entirely heal. Cancers will often suppurate in part and leave other parts unmoved. These should be watched and

touched as occasion requires until the whole is reduced and removed. Many cancers have been effectually removed by this process, but a few have proved too obstinate for any process yet known to me.

3. *Wounds.*—These should be cleansed by cold water, washed with tincture of myrrh, and bound up. If they open much, they should be closed by stitches or adhesive plaster, and opened only for examination, until healed, unless they are inclined to suppurate, when they must be poulticed, and the general system protected against mortification by stimulants, the vapor-bath, etc.

4. *Burns.*—These should first be put into cold water; or, when this is not convenient, cotton cloths should be laid on them, and kept wet with cold water, until the parts will not smart when exposed to the air. Then they should be treated with poultices and salves, or a cream made of lime-water and sweet oil, equal parts, until they heal.

5. A *frozen* part should be immersed in water at the freezing point, and kept there until it becomes perfectly pliant. If the water is at the freezing point, a coating of ice will form on the part, and adhere until the flesh is thawed, when it will give way and melt again. After this takes place, remove it from the water and dress it with the healing salve or the cream, as above.

6. *Scrofulous* cases, and others in which there is much morbific matter, should be treated, first, with courses and then with stimulants, alteratives and tonics, to keep up the action until all the morbific matter is removed; repeating the courses as occasion may require, and the vapor-baths very often, even every day in bad cases.

7. *Eruptive Diseases*, such as scarlet fever, measles, small pox, chicken pox, and all others in which a morbific or poisonous virus determines to the surface, should be treated, first, with emetics, antispasmodics, enemas, and the vapor-bath, then with gentle diaphoretics until the eruption is entirely gone, repeating the emetics if the stomach and lungs become foul. Be very careful not to dash on so much cold water after the bath, as to stop the perspiration. Hot water and dry wiping are preferable. Give plenty of drink, and keep the patient in an even, moderate temperature, and the rooms constantly ventilated with fresh air. Let the diet be entirely vegetable, and moderate in quantity. See more extended directions for the treatment of these forms of disease hereafter.

39.—*Symptoms of Disease.*

By the symptoms of disease, are meant the effects produced or excited by the presence or the action of the various causes, whether these effects be direct, as those of chemical or mechanical agency (illustrated by poisoning and bruising, etc.), or indirect as those of the action of the system, illustrated by a quickened circulation, pain, delirium, etc.

I have said, that the power to maintain an equilibrium of vital action in all parts of the body, constitutes the state called health.

In every voluntary motion, this equilibrium is momentarily deranged, but restored again, on the reverse motion. Thus, when a person bends forward, he impedes the vital action in his stomach, diaphragm, liver, etc.; but, when he resumes the erect posture, the action is restored. It is only when the derangements continue until the organs lose their power to resume the healthy action, that disease is established. These derangements are usually manifested by corresponding alterations of the circulation and nervous action,

which, being cognizable to the senses, become pretty sure indices to the character and locality of the disease.

41.—*Nervous Symptoms*

The property termed *vital phenomena*, because they are signs exhibited by the action of the vital force, and of vital matter.

For all practical purposes, the following description of these vital signs is sufficient, namely: irritation, fever and inflammation are excessive and fixed, or too long continued action of the nerves and blood-vessels of the system. If the vital excess is predominant in the nervous system, it is called irritation, aching and pain. If predominant in the circulating system, it is called fever or inflammation. But, being more than this, connected with these vital phenomena, is a mere circumstance, yet necessary to them, and very important taken into the definition by writers on the subject. If the nervous action is so great as to produce very uncomfortable sensations, it is called rheumatism, neuralgia, or tetany, &c., &c.

Hansen justly said: "The simplest form of inflammation is a blush." He really means that the form of inflammation is a *bouillie*, that is, accumulation of heat and blood in the arterial capillaries, as I have everywhere described it. If the vascular action is excessive, but not attended by very marked changes in the serous membranes, it is called fever; if dull and attended by well marked changes in the serous, it is called inflammation. Both the exciting causes and the progressive and the voluntary sequence of these vital phenomena may be various and different, but these do not change the nature of the phenomena nor the principles of the treatment they require.

The indications of all these phenomena are to relieve and maintain the equilibrium of vital action which in all cases is effected on the same principles and with nearly the same stimuli and processes. It consists in simply equalizing the vital action and quieting the serous.

The first symptom of disease, or *signs of the first class*, namely: the nervous, is an uncomfortable state of the body, manifesting itself in an undue excitement of feeling, or a mental and bodily uneasiness, which we call irritation.

The second degree of nervous excitement is that which is still more disagreeable and annoying, and which is called aching.

The third degree is that uncomfortable state of the nervous system, which is manifested by a severe sensation which we call pain.

All these symptoms or degrees of nervous excitement are produced by interruptions, disturbances and derangements of the nervous action in different degrees, or on nerves differently endowed. Thus, *irritation, aching and pain*, are the notices which the nerves give to the brain that they are interrupted in the performance of some of their physical actions.

Pain is therefore not a disease, but a mere monitor to the patient, and a friendly adviser to the practitioner of some error in the system which should be corrected; some interruption to the nervous action which should be removed, by a general cleansing of the system of all morbid matter and of every other exciting cause of irritation; and the use of soothing and quieting medication, neurological and magnetic operations, mental and moral diversion, physical exercise, &c.

Astoness and intolerance of sight, hearing, taste or smell—denote cerebral inflammation which should be treated on the same principles as cerebral engorgement, by equalizing the action of the nervous fluid as we do the circu-

lation of the blood. When it proceeds from excessive thought, this can often be done by brushing away, with the hands, the action from the part affected, and stimulating its antagonist; as will be hereafter directed. The nervous fluid obeys the same laws that govern the circulation; it increases where there is action and diminishes where there is rest.

In all cases of cerebral inflammation, cool water should be applied to the heated parts of the head, the vapor or the warm bath to the lower body and extremities, relaxing and stimulating enemas to the bowels, and antispasmodic stimulants to the stomach. When these fail to relieve, they should be aided by thorough emetics.

When the nervous symptoms are merely indications of obstructions to other organs, as headache from foul stomach or cold feet, they must be treated on the general plan of cleansing the system of all morbid matter, and equalizing the circulation. But,

When they are effects of the overworking of the nerves themselves, as headache from too much study, from watchfulness, etc., then the brain should have rest, and the muscular system should be exercised; meanwhile, the action, for the time, may be removed by neurological operations.

To remove the headache by manual operations, brush lightly with the fingers of both hands, backward and outward, from the point affected, as the forehead, the eye, a tooth, etc., until the point feels cooler, easier and lighter, alternating that action with an occasional pressure on the organs of firmness, conscientiousness, self-esteem and love of approbation. When the action is equalized in the head, brush it down into and out of the body, by making passes with the open hands and curved fingers, from the head downward to the chest and outward from it.

It has been too generally supposed that derangements of the nervous system were not under the control of medicine, and that the miserable sufferers from "hysterics" or "hypo," must not only suffer on, but be rather laughed at than pitied as they drag out their miserable existence, in a sort of non-descript condition, to which even death itself were far preferable. It has been discovered, however, that opium and other narcotics, will quiet, for the present, the agitations of the nervous system, though they can not remove the cause. The Botanic practice has proved that, when nervous derangements are only symptomatic of the derangement of other organs of the system, the rectification of the latter not only insures that of the former, but it is the only proper mode of treating them. On the other hand, when the nerves are primarily diseased by the excess or incapacity of their own action, the old science of mental diversion, now the new science of neurology, teaches us that they may and should be cured by a change of subjects, of thought, and a simple manipulation upon the different portions of the brain itself, by which the excess of action is withdrawn from the diseased organ and invited to others, thus leaving the former to rest, and recovery of its healthy tone.

Irritability is manifested in all parts of the system, particularly in the nerves of the brain, of the senses, of the locomotive apparatus, of the surface, and of the digestive organs; but, wheresoever located, it is over excitement or hyper-action of the nerves, and derangement of their action.

CAUSES.—It is caused either by too much mental action, as from watchfulness, from study, from joy, from grief, from love, from anger, or any other passion; or from the presence of morbid matter in the domains of the general system, as when the patient neglects too long that most important healthful process of bathing, in consequence of which the perspiration is checked;

or when he neglects to discharge, whenever nature calls, the fecal or the urinary excrements from his system; or when he takes constantly into his stomach irritating substances, as ardent spirits, tobacco, tea, coffee, spices and condiments, or too much of the best of food, or inhales into the lungs irritating gases, the dust of coal, of medicines, of earth, or any kind of exciting effluvia.

Treatment.—Let the practitioner always bear it in mind, that the only direct or producing cause of irritability, sensitiveness or irritation, or over action, is the vital force; and that the exciting cause may be any thing and every thing that can, in any way, either invite or provoke this vital force to over action; that, in cases of study, or the undue action of some of the affective organs, the vital force itself may be both the exciting and the producing cause; and that the first object in the treatment, though it can not always be accomplished first, is to remove the exciting cause. Until this is effected, no medical treatment will be more than temporary or merely palliative. Therefore, seek among the above and similar, the exciting cause of irritation, and instantly remove it if you can.

The next step is to quiet the irritation itself. This never was nor ever will be done in any more than two ways: the allopathic method and the physio-medical. The first consists in the use of narcotics and sedatives, which paralyze the vital irritability or impressibility; and, if used too freely or frequently, utterly destroy it (*Crit.*, Nos. 71 to 77); the second consists in purifying the whole system of all morbid irritants, which is done by courses of medicines, enemas, vapor-baths, alteratives, diaphoretics, proper food, clothing and exercise. The first course, or that of poisoning with narcotics, as opium, prussic acid, etc. (*Crit.*, Nos. 71 to 76); or that of freezing with ice, cold baths, etc. (*Crit.*, Nos. 599, 603, 604, 606), *all true Reformers*, of whatever name, utterly reject. The second course, or that of removing the causes, and purifying the body of all morbid agents, is sometimes pursued, empirically or by accident, "without the guidance of any [to them known] therapeutic principle," by all other medical men; but it is scientifically, systematically, judiciously, consistently, perseveringly and effectually pursued, only by the physio-medical practitioner. For the processes, see course of medicine, etc., and for the means see *materia medica*.

41.—Circulating Symptoms.

The second class of these vital symptoms of disease, includes those that are manifested by the heart, arteries and arterial capillaries, producing all those phenomena which are *properly* included under the names fever and inflammation (which see), and manifested by the beating and throbbing of the heart, and arteries, a burning and soreness of the surface, fullness and heat in the head and on the surface, and generally measured by the force and character of

THE PULSE.—The collapse and expansion of the left ventricle of the heart, produce an unequal flow of blood throughout the arteries, in the manner in which waves or tides pass up a river. Wherever the arteries come near the surface as at the wrist, the temples, the neck, the ankles, the instep, etc., these waves may be felt with the finger, and are called the *pulse*.

As, in my opinion, far too great reliance has been placed on minute subdivisions of the conditions of the pulse, I shall direct your attention only to those particulars in which I consider its indications useful.

In health, the pulse is far quicker in infancy than in riper years.

It is weak, small and slow, in purely nervous temperaments.
It is weak, small, soft and slow in lymphatic temperaments.
It is full, strong and quick, in sanguine temperaments.
It is hard, strong, and moderately full, in bilious temperaments.
These qualities are compounded with the temperaments.

None but a practical phrenologist and physiologist can determine, with any great degree of accuracy, what is the natural, healthy character of the pulse of a sick stranger, or the nature and extent of his disease, from the present state of his pulse.

Therefore, physicians should endeavor to become acquainted with the healthy pulse of all those persons on whom they are called to practice, that they may recognize its deviations in disease.

In disease, the pulse may be quickened, retarded, strengthened, depressed, remitted, intermittent and rendered tremulous, and these different conditions may be compounded.

It may be speedily and materially raised or depressed by the approach of the doctor, especially if it be supposed that he is severe in his practice. A very formal examination and grave suspension of his opinion, or a very decided conclusion, will materially alter it.

The true pulse is obtained only when the patient is free from every other excitement than the cause of the disease.

I always feel the pulse of a patient before I commence practice on him, not with the expectation of ascertaining precisely (only approximately) his present condition, but to obtain a standard from which to estimate the degree of effect produced by my practice.

The character of the pulse also aids me in determining the character of the remedies and processes I should use.

To obtain this knowledge, I approach the patient with a cheerful, a sympathizing and confident air, and feel of the pulse in the wrist free from compression or obstruction, as when the patient is lying flat on his back. With my finger and my mind on the pulse, I talk to him about things that are calculated to make him forget that I am feeling his pulse. I pursue this course until I effect my object, that is, until I get the true pulse of the disease, not modified by the influence of my presence. I now either note or remember the state of the pulse discovered, and commence administering remedies accordingly.

For example, I find the pulse of a sanguine temperament, very quick, full and strong, I shall usually find also a hot surface, and intense thirst. This shows that I should sponge the surface with cool water and give a plenty of bland fluids, as catnip, sage, balm or boneset tea, until I reduce the superficial heat and allay the inward thirst, when perspiration will appear and the pulse will become slower and softer. The degree of difficulty with which this result is produced, shows me the power of the obstructions to a healthy action, and the difficulty of maintaining the healthy action, shows the extent of the disease.

A quick, full and strong pulse, with a hot surface, denotes only superficial disease, and is relieved by aromatic fluids, as teas of the plants called labiateæ; by sponging and steaming, or at most by a common course of medicine.

The best plan of sponging is to put the patient into the vapor-bath, and with him a vessel of water just cool enough to be pleasant to him, and direct him to put it all over him with a cloth, until he can bear the vapor without

oppression. In my vapor-baths this water may be showered on him. If he is unable to do it, another should do it for him.

A quick, full and strong pulse, with a free perspiration, denotes that the obstructions are deeper than the surface and the first passages, and requires the constant use of relaxants and stimulants, as the laxative bitters and lobelia pills, enemas, etc., with an emetic occasionally, until the whole system is depurated.

Suppose I find the pulse oppressed, that is, quick, small, wiry and often fluttering. This shows internal derangement and congestion, and indicates the necessity of a relaxing and stimulating treatment, and the energy and continuance of this treatment, necessary to relieve the oppression, show me the extent of the disease.

A quick, small and strong pulse, indicates still more internal obstructions, and requires the same treatment as the last, but more energetic, and longer continued.

A quick and weak pulse, denotes very deep depression of the vital energies, and extensive and dangerous obstructions, and indicates the necessity of relaxants, stimulants and antiseptics, with constant care to keep free the surface and first passages. These are the typhoid forms of disease, in which the danger is proportioned to the loss of vitality, and the septic or malignant nature of the obstructing agents.

A slow, full and strong pulse, denotes a free circulation, and, of course, is favorable.

A slow, small and strong pulse, indicates internal obstructions, unless found in nervo-bilious subjects, where it is frequently the pulse of health.

A slow, small and weak pulse, in sanguine subjects, denotes great debility; in nervous and lymphatic persons, it is more natural.

An irregular pulse, whether quick or slow, full or small, weak or strong, denotes extensive derangement of the circulation.

Whatever be the state of the pulse when you commence with the patient your object should be to bring it to the healthy standard of that individual; and your practice should conform to the circumstances of the case. The whole effort and means should be directed to the process of *equalizing the circulation*. To this end, emetics and enemas should be administered, and warm and moist or cool and moist applications should be made to the surface of the body, to the bowels and lower extremities, and the action kept up by friction and medicine suited to its wants, alteratives being used at the same time internally, until the pulse becomes natural. Its approach to a natural state, shows that you are practicing right, and its departure from it shows that disease is gaining on you.

The pulse, therefore, indicates the success or the failure of the treatment, rather than the state of a patient whom we see for the first time. A flushed face denotes a determination of the blood to the head; and a dark, copper-colored or purple face, indicates a sluggish return of the blood to the heart. These symptoms occur in apoplexy and epilepsy, in which the circulation should be equalized by the use of relaxants and the vapor-bath. The pulse in these cases is often confused and tremulous, sometimes wholly absent.

42.—Fever.

When the irritating causes of disease have obstructed the capillary circulation, and excited the heart and arteries to an undue effort to remove that obstruction, the derangement of the circulation thus produced is termed *fever*.

Causes.—Fever, like irritation, is directly produced by only one cause, the vital force; but it may be excited, like irritation, by any thing and every thing that can, by obstructions, in any way derange the equilibrium of the circulation. The obstructing or exciting causes are usually the same as those that excite irritation, only they are longer continued. The irritation of the nerves, prolonged, excites a fever; so also, fever irritates the nerves.

Treatment.—As in irritation, so in fever, there are but two ways to remove it. The first is to remove its exciting causes, if possible, and the second is to abridge or destroy the power of the system to produce it. The allopathist takes the latter course. He bleeds, physics, poisons, purges and starves his patient, until he thinks he has left in the system organic force enough to make a fever, and then turns him over to the cook, whose physiological treatment, should it be so effective as to raise the depressed system, and bring on "a relapse of *the disease*," must be suspended again, "and the unfortunate patient must be depleted again and again, until no reactive power remains, when he gives up the ghost to the treatment instead of the disease."—*J. M. Good.* (Criticisms, Nos. 556-70.)

But the allopathist is not satisfied with one "measure," the lancet, in his warfare against the vital force in fever. He must have his antimony, his digitalis, etc., to paralyze the circulation of his patient, when he dares not remove any more of "the blood thereof, which is the life thereof;" and last, but not least, he must ply his "mercury to promote the secretions." (Criticisms, Nos. 78 to 151, particularly 80 to 84, 94, 96, 105, 142.)

Again, in the treatment of fever and inflammation, they have devised ways and means to subdue those manifestations, instead of removing those causes which have excited the system to produce them. Hence the use of the lancet, digitalis, antimony, mercury, etc., which, instead of removing the obstacles to free circulation, deprive the organs of the power to produce those derangements of it. These vital symptoms being considered disease, they have been led to believe that disease was subdued, when it was only the vital system that was subdued, while the power of disease, being undiminished, is greater in proportion to the power of resistance to it, than before the treatment. (See Criticisms, Nos. 55 to 70). And, but for the fact that this species of treatment can no longer be continued, and that the vital system possesses an immense power to recover from injuries when left uninterrupted, this allopathic treatment would destroy all the patients that were submitted to it. But the vital system oftentimes, in its efforts to oppose the introduction of the remedy, rids itself of both the remedy and the influence of disease when the organs resume the proper performance of their functions.

43.—Inflammation.

This is but a local fever, in which the derangements of the tissues, and the action of the part, have become greater than in fever. (See Criticisms. 236, 237, 240, 243, 248, 250.)

Causes.—The same as of fever.

Treatment.—The same as for fever. There are only two ways to subdue it: first, to deprive the heart and arteries of the powers to produce it, which is effected by blood-letting with lancets, leeches and cups; by physicing, poisoning (Crits., 80, 81, 82, 84, 90, 92, 108, 110, 114, 141), freezing and starving, and practiced with more or less energy and *success!* by all classes of doctors except the physiological; and, second, the removal of the exciting causes, and the restoration of the equilibrium of the circulation. After the removal of

the cause, so far as it can be instantly done, the courses, etc., should be administered in the same manner as for fever. Then, if the inflamed part be accessible, cooling applications, and if lesions or severe local pains exist, poultices, etc., should be applied, freely and constantly, until the exciting or obstructing cause shall be so relieved that the inflammation shall be no longer necessary.

44.—Mechanical Symptoms.

The second class of symptoms, namely, the mechanical, is indicated by external or extraneous obstructions to the circulation or muscular action, or to some of the secretions. Thus a bandage around any part, a tight dress, neck-cloth or shoe, impedes the circulation and produces deranged conditions of the tissues of the system, properly termed disease.

A permanent contraction of any part, as the muscles in tetanus, or the ligaments in ankylosis; or a continued bad position of the body, is considered a mechanical sign of disease. In this class also may be arranged all mechanical injuries, as wounds, bruises, etc.

45.—Chemical Symptoms.

The chemical symptoms are manifested in the action of escharotics, and in all spontaneous destructions of tissues, or in lesions produced without the agency of any apparent external causes, and in mortification in general from whatever cause. They are referred to the action of chemical affinity alone.

It has been the practice of all classes of medical men to treat nearly all these symptoms as the disease itself; but this is the ground of their error. The true disease is the condition of the system which excites the vital symptoms, or which makes the other symptoms manifest. Medical men who have built their systems of pathology upon the doctrine that irritation, fever and inflammation are disease, have based their therapeutics upon those means and influences which are calculated directly to subdue those vital manifestations. Thus, to subdue all nervous excitement, as manifested in irritation and pain, they have adopted the use of narcotics or those articles which deprive the nervous tissue of the power to manifest its conditions; and, to subdue fever they have devised the lancet, etc.; instead of removing the cause of disease, they have removed only the cause of its symptoms; or, in other words, have deprived the system of the power to indicate to them its condition.

46.—Internal and External Relations—Counter Irritations—Sympathies.

Throughout the instrumentality of the various nervous structures, there is constantly kept up such a sympathy or antagonism between the different parts of the body, that whenever any part is much affected, the corresponding, or the antagonistic part, feels the influence, and acts accordingly.

Thus, the external surface of the body is opposed to the mucous and serous membranes, as of the lungs, the alvine canal, the pleura, peritoneum, etc. So that if the function of either of these be diminished or excessive, that of the corresponding or antagonistic, will soon become excessive or suspended, and the restoration of the lost function is the correction of the excessive, and the only true way to effect it. For example: If the surface become cold and contracted, diarrhea, peripneumonia, pleurisy, or some other internal excess is certain to follow; the only sure cure for which is to restore the perspiration, and equalize the circulation; while in obstinate costiveness, the surface and the lungs carry off the fluids that should pass through the

alvine canal ; and proper food, exercise and occasional enemas to the bowels, are the true means of procuring the natural discharges. So, if the feet become cold, the head will be sure to ache ; and the true and proper cure of the latter is to heat the feet again. Or, if we engage in intense and long protracted study, the feet and surface will become cool, even in a warm room. For this, the exercise of the body, and the relaxation of the mind, are the only philosophical cure.

Again, if the stomach become foul, the brain will become irritated, oppressed, and finally, dull and sleepy ; and the only proper correction is the cleansing of the stomach. "The stomach is the center of sympathies." Thus a blow on the head, or a pinch of the toe, or the excitement of painful intelligence, will often make one sick at the stomach by withdrawing the action from it. It is on this principle of sympathy and antagonism between the various organs of the body, that physicians have built all their systems of counter-irritation by frictions, rubefacients, blisters, etc.; which system, when carried to its full extent, and by the right means and processes, constitutes almost the sum total of the healing art.

This irritation should not be all produced in one spot, to the destruction of the organization of its structure, as is done by a blister, but it should be spread all over the surface, as we do it by a vapor-bath. Thus, all the good is done which is ever expected from a blister, without any of the mischief which that dangerous application so frequently produces.

There is nothing more important in all the theory of medicine, than this doctrine of the sympathy that exists between the external and the internal, and the upper and the lower man ; nor in the practice, than the preservation and the restoration of the equilibrium of the action between them. Yet the whole subject, in theory and practice, is exceedingly simple. To understand it well, we must remember that, in a state of health, and of proper outward temperature, clothing and action, the heart and arteries throw the blood in due measure to all parts of the system ; those arteries and capillaries that go to the external surface, being as warm, relaxed and well filled, as those that go to any internal part.

It is a physiological principle that the vital force acts through the nerves to produce irritation, and through the arteries to produce fever ; that whenever any part of the system is irritated, the nervous force and the blood, both rush to it to defend it ; and, in so doing, leave other parts with less vitality to keep up the accustomed action. Thus, when some irritating or poisonous substance, as a drastic purgative, or very exciting food, as tamarinds, is taken into the stomach, the vital force rushes through the nerves and arteries to that membrane, and puts it into excessive motion, which causes it to secrete more fluids than it should. These passing rapidly downward, produce a diarrhea ; meanwhile the pressure of the centrifugal circulation being just so much relieved of blood, and, of course, warmth, moisture and perspiration, the vessels of the surface contract and impede the outward circulation, compelling the heart and arteries to throw still more blood within. This destroys the equilibrium of the nervous action and the circulation and derangement, consisting in the contracted and inactive state of the surface, and the irritated and over secreting condition of the mucous surface, continues producing, after some time, griping and pain in defecation, and, finally, a discharge of bloody mucous. This is first called dysentery, then flux, cholera morbus, etc. Practitioners ignorant of the true conditions of the opposing tissues, often give physic, by which it is very evident that the disease is made worse, and well known that, by continuance it often ends in piles and fistula.

The true plan of cure consists in warming, relaxing and stimulating the external surface, so as to invite the action outward; then the alvine canal will be relieved of the excessive action caused by the previous determination of the blood and nervous force to its surface, when the most soothing and gently astringent fluids should be given internally, in combination with medicines that determine to the outer surface, as the sudorifics. Thus, a good vapor-bath, and a plenty of warm aromatic teas, as ginger, asarum, sage, pennyroyal, etc., and gentle astringents, as witch hazle or raspberry leaves, a few times repeated, will cure this diarrhea, dysentery or bloody flux; bloody urine or bloody menstruation. The bath is equally remedial in bronchitis, asthma, and catarrh.

When the excess of action is on the internal glands, as the liver, the pancreas, the kidneys, and the spleen, the same equalizing course will relieve it. When the excess of action is on the pleura, the peritoneum and other serous membranes, the relief must be gained by the same means; the bath and diffusive stimulants. It matters not what internal organ is affected, the process and the means of cure are the same.

If the irritation of the serous membranes is suffered to continue, until they are exhausted and prostrate, they relax and permit the watery part of the blood to pass through into the cavity and produce dropsy. This too, must be cured by restoring and maintaining the equilibrium of the circulation, taking off the action of the surface, by the bath and friction with stimulants, or rubefacients, which will leave the serous membranes free to absorb the water, from their cavities, and the circulation to remove it from the body.

As the inner and the outer man are antagonistic, so are the upper and the lower; and the derangements of the equilibrium between these, are fruitful sources of disease. If the brain is very active and the body and feet are idle, the circulation and nervous action will be accumulated in and toward the head, and the other parts, the feet and surface now will suffer from inaction. All these aches and pains in the head are relieved by the simple process of inviting the action to the surface and the lower limbs and feet.

Finally, if abscesses form within, or irritations and inflammations of the blood-vessels (arteritis and phlebitis) occur, the only way to relieve them is to invite the action outward, as in diarrhea, dropsy, bronchitis, etc.

But there is another way of concentrating the action on the nerves and arterial capillaries of a particular locality, than inviting it to them by irritation. It consists in forcing the blood to them by collapsing or astringing the opposite parts; thus, when we expose our surface to the cold and absorb from it too rapidly and extensively the heat, we cause it to contract and to diminish the capacity of the external blood-vessels which compels the heart and arteries to send the blood inwardly to those organs that offer the least resistance to it. If these organs are irritated, inflammation is the result; if inactive and relaxed, they receive the blood without resistance, producing distension without inflammation—a state called congestion. In either case, the principles and the mode of cure are the same, namely: invite the circulation outward, by baths, friction with rubefacients, etc. Bathing the feet in hot water, giving stimulating enemas, and applying vapor-baths up to the diaphragm are powerful means of removing all irritation and inflammation from the brain. The equilibrium when restored, should be preserved, by continuing gently the means that restored it, or some others that act more steadily in the same way; as warm clothing for baths, and asarum for lobelia, etc.

The division of disease into species, indicated by as many names as there are organs or parts of organs to suffer, as hepatitis, nephritis, bronchitis,

gastritis, laryngitis and pharyngitis, is calculated rather to confuse than to instruct the practitioner, as all the conditions of the system indicated by the general terms, irritation and inflammation, must be treated on the same principles and in the same manner, varied only by the facilities which their localities may afford us of applying the means that we use.

47.—Neurology.

This term is derived from the Greek words *neuron*, a nerve, and *logos*, a discourse, and is used to represent the anatomy and physiology of the nervous system. The old anatomists supposed the brain to be a homogeneous mass, or kind of albuminous pulp, and that the whole was active in the reception of an idea, or the production of a thought. The phrenologists consider it a compound organ, to distinct portions of which is assigned the performance of special mental functions; and that in very impressible persons, these organs can be excited by the touch of the hand, to the performance of not only the peculiar functions of the brain, but of those of other portions of the body, increasing or depressing them at pleasure; that an influence, which is termed *Nervaura* may be made to proceed, at will, from every organ of the brain of every person, and to affect, to some extent, the organs of any other brain to which the fingers of the operator may be applied.

Of course, the more of the nervaura a person has, the more effectually he can operate upon others; and the less he possesses, the more distinctly he perceives the influence of those who have the most. Those who have the least, or, perhaps, those whose organs the most readily respond to its action, are termed *Impressibles*. So sensitive are some of these to the influence of the nervaura of others, that, whenever they touch an organ of the head or face of another, they feel, in themselves, the influence of the action of that organ, as strong or weak, healthy or unhealthy; and, of course, they are capable of determining the relative power of different brains, or of the different organs of the same brain. Thus, they possess the capacity to acquire, by constant practice and careful observation, a minute and accurate knowledge of phrenology, physiology, pathology, diagnosis, and the principles of therapeutics. They have only to learn the physiological action of the different parts of their own heads, and they become able, by bringing them into contact, through the medium of their own fingers, or those of the subject, with the corresponding portions of the head they wish to examine, to ascertain precisely the locality, character and condition of those organs; and, if inactive, how to excite them; if excited, how to allay; if diseased, how to relieve them. Such a degree of impressibility undoubtedly exists, but it is so rare that it can not be made the basis of general practice.

Antagonism.—Phrenologists and physiologists teach that every organ in the brain, as in the body, has its antagonistic organ, and that these are constantly acting in opposition to each other; so that a man's character is not decided by the strength or activity of either one of these, but by the balance of power between them; thus, if benevolence should be marked six, and selfishness seven, the man is inclined by the force of one degree to the side of selfishness, and so of all the other antagonisms.

The propositions are either true or false. If false, they are a comparatively harmless humbug; if true, they are among the most important discoveries ever made by man. Fortunately the means of testing them are within the reach of every man, and they court examination.

48.—Impressibles.

To ascertain whether a person is impressible, take his hand in your own, and request him to hold yours loosely, while you grasp firmly his, for some five to ten minutes. If he is impressible, and you are a good operator, he will feel a diminution of sensibility, or a numbness (much like that of the limb going to sleep) creeping up his wrist, arm and shoulder, and, perhaps, into his body. Some have described it as resembling a charge of electricity when insulated. If no impression be made, either the subject is not very impressible or you are not a good operator. But if impressible at all, his organs are not all equally so. Those organs are the most impressible which are the most frequently and powerfully irritated and inflamed. If the irritation and inflammation have become chronic, the effect is of a depressing character; and, in proportion to the recovery of a healthy tone, this impressibility wears away, or, in other words, he acquires more power to resist the impressions of the operators. I have said that the impressible person feels, very manifestly, whether pleasantly or painfully the influence of the organ with which he is brought in contact. To prevent this influence from being disagreeable, he should always keep one hand near the antagonist of an organ when examining it with the other; so that, if a disagreeable impression is about to be established, he can touch the antagonist, and restore his balance. If this also fail, as it frequently will, from the general debility of the subject, he should touch the corresponding organ in some friend who has it strong, active and healthy.

Having found a suitable, that is, a very impressible subject, he can determine, by feeling on his head, the locality of all those organs that are very active or much depressed, and thence the extremes of character or of disease, much better than he can their middle grounds. Impressibles can operate on themselves, so as to relieve their pains, aches, etc., or they can often extract these from the operators, when they feel them in their own bodies. But the non-impressibles must learn this through the medium of the impressibles.

49.—Experiments.

1. *To relieve Headache.*—Ascertain where the pain is. Place yourself on the opposite side; put the points of the fingers of both your hands on the seat of the pain. Then brush quickly, but lightly, from that point toward you and outward, occasionally putting your hands on the organs antagonistic to the seat of the pain, until the head appears to be equally excited, that is, as full of blood and heat in one part as another, when you should brush downward and outward until the effect is produced. If the forehead ache, stand behind the patient and brush backward; if the occiput be affected, stand before him and brush forward; if the top ache, brush downward; if one side, brush to the other. In most cases this will relieve for a time, and in many it will effectually cure the headache. When it proceeds from a foul stomach, you must give an emetic. When from cold feet, warm them. When from a closed surface, bathe it. When from too much study, quit it and take exercise. When from over-eating, fast a meal or two, and then eat moderately. When from constipation, use an enema, and live on unbolted wheat bread. In short, remove the cause, whatever it may be; remembering that the neurological operation is only for present relief, though it often proves permanent.

2. *To relieve Toothache.*—Brush with one hand from the point over the tooth in the direction of the nerve toward the ear, and press with the other

pretty hard on the organs of firmness, self-esteem, approbative ness and conscientiousness, until the effect is produced; from five minutes to half an hour, according to the impressibility of the patient and the intensity of the disease. This will remove for the time, almost any toothache. If it proceeded from cold, and the cold is not removed, it will return again soon; if the cold is removed (by a course) it will be cured until another cold is taken. If the nerve is exposed, it must be killed and the tooth plugged or drawn.

Pains in any part of the body, may often be moved in the same way, that is, by brushing from the seat of the pain to opposite parts of the body, and placing the hand for a time on the restraining organs of the head, viz: firmness, self-esteem, conscientiousness and approbative ness, among which the point between conscientiousness and cautiousness seems the most prominent. Slight pressure on this region, will remove any feeling of depression in any part of body, as sickness at the stomach, pain in the bowels, oppression of the lungs, pain in the side, etc., etc. This is done by attracting the nervous action from those parts.

Region of the Brain.—Let it be remembered that, in general the forehead, the face, and the neck before the ears, are depressing, that the posterior-superior portions of the brain are strengthening, restoring; and the posterior-inferior portions are propelling to all the energies of the system. Just imagine these central points radiating toward each other, and you will recognize the effects that would naturally be produced, viz: combinations of the simples proportionate to the relative admixtures. More particularly, the anterior-inferior portions of the head are preceptive, the anterior-superior portions intellectual, the superior portions are moral and religious, the posterior-superior portions are affective, the posterior-inferior portions propelling, the bases of the posterior portions are animal, those of the anterior portions physiological, governing especially the internal viscera—in fine, every part of the brain either receives impressions from, or throws influences to, some part or portion of the body; thus the restraining portions are opposed or antagonistic to the depressing; the moral to the animal; the propelling to the relaxing; the superior to the inferior, as benevolence to selfishness, etc. (see antagonisms). Until the operator becomes acquainted with the locality of the various subdivisions of the neurological organs, he may operate upon the above general principles, until, with a very impressible subject, he will be enabled to discover the precise locality of the particular organs.

Sleep.—To produce natural sleep, place your hand upon the forehead, with the fore and second finger astride the nose, bringing them up into the arch of the eye, and press very gently for some minutes. In this manner I have often put to sleep a patient so nervous and watchful that the best nervine medicine had no apparent effect. I have brushed away the excitement of a person when in the greatest nervous tremor, so as to produce, in a few minutes, the utmost calmness; and, even in spasm, this kind of operation has relaxed the system and restored quietness. This is done by brushing the action first equally into all parts of the head, and thence into and out of the body, as before directed.

To relax the Limbs.—Stand behind the subject and place your hands on the neck close under the lower jaw. To restore, touch the restraining organs; and in this, as in all other cases, brush away the influence from the organ before excited. Also be very careful to leave the action of the various organs properly balanced, or your patient will be quite as uncomfortable as he was before your operations.

50.—Animal Magnetism.

This is a term given to those neurological operations which arrest the action of the organs of external sense, while they give a greater acuteness to those of the intellectual and moral. By these operations, suitable subjects are first put into a sleep so profound that it is often difficult to awaken them by any other means than the instrumentality of the operator, who put them to sleep. During this period of extraordinary and profound sleep, the subject is often able to perceive and describe, not only things which the operator sees, or imagines he sees, but things of which neither before had any distinct impression; as the objects and scenes of countries and places they have never visited, and the internal conditions of the body.

The difference between this system and neurology, seems to be, that, in the former, some of, or all the external senses are closed during the operations; while, in the latter, the subject is fully possessed of all his faculties during the operations, though, in the most impressible subjects, so strongly influenced by those which are particularly excited, that he feels neither ability nor inclination to put into motion any others. The doctrine is,

1. That every person is susceptible of this influence, but capable of resisting successfully, a degree of it equal to his own; and of sustaining a higher degree, so far as to be little affected by it.

2. Every person is capable of communicating it; but, if the person to whom he attempts to communicate it, possesses or exerts as high a degree of the same power as he does, no distinct manifestation of the influence will be perceived.

3. Persons possess, at different times, different degrees of impressibility; and, of course, different degrees of magnetic power; consequently, the same experiments, by the same persons, will sometimes be successful, and sometimes they will fail.

4. Experiments on the sick, if judiciously conducted, seldom, if ever, fail to improve them, while they do no harm.

5. If the impressibility be the result of constitutional quality or power of the nervous fiber, it is always improved or rendered more acute and distinct, by exercise. If it proceed from disease, it generally diminishes as the patient recovers; or, perhaps, more properly speaking, it requires more magnetic power to affect a healthy than a diseased organ.

6. The most important faculty in an operator, seems to be concentration of mind. For want of this, many who possess a high degree of vitality, are very poor operators.

7. By judicious, scientific experiments in Animal Magnetism, as well as Neurology, every part of the body may be brought into high excitement, almost wholly independent of the action of other organs, and of course, may be made to perform its own part in the business of life, without "provoking its neighbor to anger;" thus, the circulation and the nervous action can be readily equalized, and the health restored, so far as the regulation of nervous action can effect it, and this is almost universally.

8. By the same experiments, the seat and character of disease are ascertained, and the proper remedies are pointed out; also, the improvement or declension of the patient from day to day, may be noted. Far more than this is claimed for these sciences, or rather these branches of the same science, by their respective advocates; but let this suffice for the present. They who demonstrate so much, will have no difficulty in discovering more.

Precautions.—1. Do not operate upon persons seriously affected in the vital

organs, unless you are yourself strong and in good health; otherwise you may receive from them the symptoms of their disease, while you are communicating to them the salutary influence of your own system.

2. In diseased persons, observe the same caution as in the neurological operations above mentioned—keep one hand near the antagonist organs of the patient, or of a sound, healthy by-stander, and give to the hand with which you operate, a rigid muscular tension.

3. Be careful not to excite the violent passions; as combativeness, destructiveness, etc., in persons who have these well developed, unless provided with ample assistance to control them. If by accident or design you excite them, and the subject become outrageous, touch the organs of benevolence and reverence.

How to Magnetize a Person.—Place him on a chair before you, a little lower than your own, if convenient, and in a perfectly easy position, his feet near together, and request him to relax his whole system and look steadily into your eye as long as he can keep his open, when he may let them close. Request all about you to remain quiet during the operation. Seat yourself beside him, in an easy position, your feet on the floor, and your body straight and upright. Take his right hand with your right, and his left with your left, and with your thumb on the metacarpo-indici phalangian articulation, or joint of the fore finger next to the hand, and communicate to them a slight muscular tension, while you look steadily into the pupil of his eye without winking, or any other motion except breathing, which should be steady and regular, constantly willing that he may go to sleep, and thinking, yourself, of nothing else, until his eyes close and remain so; when you should let go his hands and make passes with the fingers from the crown of the head forward over the face, and down over the shoulders and arms to the hands and outward, returning your hands, with the palms outward, to the top of the head, whence you should proceed as before, occasionally passing down the breast. The passes of the hand should be light; they may not even touch the body, or they may slightly brush it, and occasionally rest a few seconds on the shoulders, breast, or the stomach, until the subject is in a deep sleep. This may be known by the action of his hands, which will be attracted to your own as a needle to a magnet; or by the fact generally, that, when addressed, he will not answer any one else than the operator; though some will be asleep, but not very profoundly, and still not exhibit these signs. Sometimes the subject is rigid in his limbs; when very rigid, the tension should be relieved by reverse passes, and by giving a relaxing influence to your own system. But there are many ways of producing the same effects.

The method, suggested, I believe, by Spencer and improved and extensively practiced by I. I. Keely, is much easier to the operator, and, on that account more extensively useful, though not so certain in some difficult cases. It consists in the use of coin instead of the eye, as a magnetiser.

EXPERIMENTS.—When your subject is asleep, you may take into your mouth any thing that has a peculiar taste, and he will taste as you taste, and give, if he is familiar with it, when awake, the name of the article. Cleanse your mouth thoroughly and taste of something else, and he will feel and act as before, as long as you have yourself a distinct perception of the article. In these experiments, the mildest and most volatile articles should be chosen first, as a powerful and permanent stimulant taken first, will remain with those taken later, and confuse the impressions they make. If you inflict pain on the operator in any way, the subject will feel and describe it. If he is gloomy or happy, irritated or calm, so will be his subject. If he is dis-

eased, he ought not to magnetize any person. In fact, no one who can not at all times, under the most provoking circumstances, keep his own temper, and retain a proper balance of all his feelings, should attempt to magnetize any person. The above experiments are called sympathetic.

2. To examine diseased persons, place the patient before the subject, and join their hands. Brush from the subject the nervaura into the patient, in the manner of making the passes above described, until the former will converse freely with the latter, and answer any question respecting the state of his mental organs. He will not generally say, "there is a cancer here," "a tumor there," etc., but, "this organ is inflamed," "that is inactive;" "this is improving," "that is growing worse," etc., and he will tell what character of medicines should be given, and the names, if he knows any such. It is remarkable that these sleeping doctors always reject poisons from their prescriptions, and recommend mostly vegetables, proper diet, and regular exercise. By examining the various organs of a healthy person, they can give a correct account of his character, and his predisposition to particular forms of disease—operations of inestimable value to medicine.

I have said nothing here about the nature, or *modus operandi*, of the motive power of animal magnetism, nor of the philosophy of that variety of its operations called clairvoyance, as these are yet but imperfectly understood, and their discussion would require too much space. The fact that the operations directed above will produce, or be followed by, the effects described, has been fully established by experiments entirely satisfactory to my mind, and made by me subservient to very useful purposes. By the neurological and mesmeric operations, I have been able to quiet the nervous agitations of the hysterical, the diseased, and even the delirious, more speedily, and often effectually, than I could do it by medicine. Only yesterday, I relieved a lady by a few brushes and touches, of a fearful foreboding of future ill, which had put her whole frame into a painful agitation. The vigilance attending acute fever, has been thus quieted in a few moments, and the patient put into a natural and refreshing sleep, after several nights of watchfulness and painful anxiety. It is on this account that I take these subjects into consideration in this place, that I may refer to them in the treatment of the various forms of disease, in future pages of this work.

In the diagnosis of disease, the following subjects demand particular attention :

51.—The Skin.

A clean, pliant skin is healthy. In disease, it is dry and hot, or dry and cold, or wet and hot, or wet and cold, or yellow, or purple, or spotted.

In dry and hot skin, bathe with water, either in bed or the vapor-bath, just cool enough to be pleasant to the patient, giving aromatic or sudorific teas until the skin becomes cool and the perspiration is free. If the teas are rejected, give an emetic and an injection, and sweat the patient with sage or catnip tea, or in the vapor-bath.

A dry and cold skin indicates inaction in the general system, and requires a thorough steaming and hot medicines internally, both to the stomach and bowels. If this does not cure, give a full course, and bathe the surface with stimulating liniments.

A wet and hot skin indicates the same as the preceding, with an exhaustion of the fluids of the system and a consequent contraction and irritation of the surface; and calls for cool bathing, antispasmodics, sudorifics, emetics, enemas, and tonics.

A wet and cold skin indicates oppressed or very feeble internal action, with great relaxation of the surface, and requires the same treatment as the above, with a still greater attention to friction on the surface with stimulating liniments; and the frequent use of a hot vapor-bath.

A yellow skin denotes a derangement of the bile, and requires a thorough course, with frequent steamings and the laxative bitters.

A purple or spotted skin denotes inactivity of the circulation, and calls for cayenne, ginger, etc., internally, and the vapor-bath as it can be borne. When the circulation becomes equalized, a full course should be given.

52.—The Stomach.

Wind or acid on the stomach denotes indigestion, called dyspepsia; and calls for emetics, which must be continued at the time, until the stomach is thoroughly cleansed, using saleratus, pearlash, or bicarbonate of soda, a fourth of a teaspoonful dissolved in half a cup of tea as long as the contents vomited are sour. The patient should eat but a very little food of any kind until the wind and acid cease. If vegetable food produce burning at the stomach, eat dried beef or venison a few times until the burning ceases. Then fast a meal or two and eat sparingly.

A sore stomach or parching thirst, which water does not allay, indicates chronic inflammation, which must be removed by emetics and enemas, and frequent steamings, and frictions of the surface.

A very relaxed stomach indicates that too much fluid in food or drinks, is habitually taken, and demands dry food and abstinence from drinking, especially at meals.

Sudden rejection of food or drink indicates either inflammation or spasm in the stomach, which should be removed by the vapor-bath and friction with stimulants, as counter-irritants, and by broken doses of lobelia, or other antispasmodic or sudorific articles.

53.—The Bowels.

The bowels are subject to nearly the same affections as the stomach. Wind, colic, frothy stools, etc., denote indigestion and fermentation; and, after the above attentions to the stomach and the surface, should be treated with enemas, first of soap-suds, then cayenne and lobelia, then some astringent, then slippery-elm, say three in immediate succession.

If cold and inactive, give enemas of cayenne, slippery-elm and lobelia, and steam them often; if full of mucus, give stimulating, and then astringent enemas, until the mucus is removed.

If sore, cleanse them well with soap-suds, etc., then use a little compound tincture of myrrh and slippery-elm, or sweet oil and balsam of fir.

If relaxed and projecting on going to stool, sit upon a warm stone, or hot stone covered with cloths, take half vapor-baths, then use, first, cleansing, then astringent enemas, and cleanse and strengthen the general system with a course, or more, as may be required, followed by tonics, and bathe the part often, with sweet oil and cayenne, or cayenne in vinegar. If severe griping (tormina) occur, on going to stool, or blood appear in the discharges, give enemas of lobelia and slippery-elm, and seat the patient in a tub of warm water as often as the griping occurs; even allow him, if he suffers much, to defecate in the water; then wash him, wipe him dry, clothe him warm, and renew the water for the next time.

Pains in the stomach and bowels are often caused by wind, the result of the

fermentation or the putrefaction of food, and the disengagement of carbonic acid or ammonia, and by sulphureted hydrogen (after eating eggs), etc. These must be removed by aromatic medicines, enemas, vapor-baths, and emetics, if necessary; and prevented by more moderate eating. The wind colic in children is relieved by the use of stimulating enemas, and raising the pelvis high, when they will discharge the air.

54.—The Head.

A feverish and aching head, denotes an unequal circulation. Treat it neurologically, and wet it with cold water, until the heat is removed, and then in warm water, or immerse it in the vapor-bath; then use stimulating enemas, hot water to the feet, and a vapor-bath to the lower extremities, followed by friction with stimulating liniments. If these do not relieve, give a course, and then, again, the stimulating liniments.

Vertigo or dizziness, dimness of sight, hearing or taste, denotes a foul stomach, which should be cleansed with a full course, and followed by tonics and stimulants to the surface and feet.

Sharp pains in the temple, eye, jaw, etc., or catarrh, denote cold in the head, and require a full course, with the head in the bath and the feet in hot water, while steaming; then tonics and counter-irritation.

Fulness of the head denotes unequal circulation, and requires attention to the bowels, feet and surface, and, if this proves insufficient, a full course, followed by tonics, etc.

55.—The Chest.

Disease in the chest is called bronchitis, pneumonia, phthisis, pleurisy, carditis, pericarditis, diaphragmitis, angina pectoris, etc., all which mean nothing more nor less than inflammation in some internal part of that region of the body. The mode of relief in all these cases is one, the invitation of the action to the external surface and feet, and the soothing of the internal irritation. The means are the same, lobelia, the vapor-bath, diffusive stimulants, and emollients to the mucous surfaces.

56.—Cold on the Lungs

Is produced by going out and rapidly exercising or talking in the cold air, after breathing or speaking in a hot room, and calls for a thorough relaxation of them by emetics and expectorants, frequent steamings and counter-irritation.

When the lungs become sore, it will be good to use inhalations of warm vapor, medicated with aromatic substances, as lobelia, spearmint, etc.

57.—Derangements in the Pelvic Region

Indicate the excess or the loss of action, and should be treated by enemas and the hot or cool hip bath, and dry rubbing, in addition to the general course. Spreading a few thicknesses of cloth on a pretty hot stove, and sitting down on it for a half hour, will often cure bearing down pains or a diarrhea, piles, griping, etc.

58.—The Feet.

Cold feet, whether dry or wet, should be bathed in hot water at nights, and cold water in the morning, rubbed with stimulating liniments and heated before going to bed, and whenever cold, until they become habitually warm. Never

warm them with the shoes on. The best way to warm the feet, is to stand on one of them, on a block or stool, and swing the other back and forth loosely, letting it hit, occasionally, the stool or the block, or a pin driven into it two inches below the surface, and changing frequently, until both feet are warm. Rubbing them occasionally with the hands, will help them to get warm soon. This should be done as often as the feet become cold.

The hands also may be warmed, by swinging them back and forth, and striking them together and against the body, then rubbing them against each other until they are warm. They should always be permitted to swing loosely beside the body, and never held on a plane with the elbow, as the ladies too often carry them, a position which impedes the circulation and nervous action at the elbow, and, consequently, makes the hands cold and numb. Swinging them freely, and striking and rubbing them often, will prevent them from being cold.

Hot or burning feet, indicate a feverish excitement, which is allayed by bathing them often in cold water, or, more certainly, in sweet or other oil; using the baths generally.

59.—Pains in any Part of the Body

Indicate an interruption of the circulation or of the nervous action, and show the necessity of restoring the equilibrium. This must be done by emetics, the vapor-bath, and stimulating applications to the surface over the seat of the pain. These may be hot bricks, smoothing-irons, clothes, bottles of water, boiled corn, potatoes, wood, etc., or they may be made of acrid substances, as cayenne, ginger, etc., or pains may be relieved by neurological operations.

60.—Caloric—Animal Heat.

There is, in the universe, but one kind of heat, no matter what name it may be called. It consists in a material substance and a motive power, which have not yet been separated. It is supposed to exist, in some measure, however small, in every portion of the universe. It is compressible by mechanical and chemical agencies, but continually disposed to expansion beyond known limits. When confined within certain substances, it is said to be latent; when passing through substances, the air or other gases, that is, when in motion, it is said to be free. There are three ways of rendering it manifest—by mechanical friction, by chemical and by vital action. In all these it is made manifest in the human body. Rapid exercise, the chemical and some of the vital changes going on in the stomach, the lungs, the glandular and the capillary systems, the friction of the circulation, respiration, nervous action, etc., contribute to render caloric manifest to the senses, when it is called *heat*. Unequal action in the system will produce an unequal distribution of caloric and consequently an unequal sensation of heat. A hot forehead, cold hands and feet, a chilly or a burning surface, indicate unequal action in the system, particularly unequal circulation and nervous action, and demand the use of means to equalize the action—which are diffusive stimulants, local excitements; and the application of caloric to the parts most deficient in that element; also, the free use of cayenne, the vapor-bath and friction with stimulants.

As few causes tend to the production of a greater amount of disease in the human system, than the destruction of the equilibrium of caloric; so few means are more efficient in the restoration of health, than the application of caloric in such ways as to restore its equilibrium. By irregularities of

dress, of exercise and of exposure, we over heat some parts of our bodies, and cool too much some others. This produces what we call cold, and excites what we call fever and inflammation, called by allopathists the "two orders of disease which make up the great amount of human maladies, and form the grand outlets of life." (Crit., No. 45.) In fever and inflammation, the equilibrium of caloric is deranged. Hence it follows, that any means which shall preserve or restore it, will preserve health or cure disease. This does not contradict the general principle that the healthy state consists in the ability of all the organs to preserve an equilibrium of action, because, it is only by the proper action of the organs that an equilibrium of caloric can be maintained. Though caloric may excite the organs to a healthy action, its equilibrium in the body, is an effect, and not a direct cause of that action. Still its presence, in due measure, in every organ, is as essential to the healthy action of that organ, as it is in the field to the growth of a plant; and it should be one of the most important efforts of the practitioner to restore and preserve its equilibrium. Where it is wanting he should supply it in warm teas and enemas, in warm bricks, rocks, jugs of water, boiled corn, potatoes, turnips, green wood, hot irons, cloths, and bitter herbs wrung out of hot water; warm clothing, warm and vapor bathing, etc. Where it is excessive, it should be absorbed away, by the use of cool water, in cloths, jets, etc., and by immersion when the parts will admit of it. Equalizing the heat, is one of the most effectual means of equalizing the circulation and the nervous action, which is the great means of curing all forms of disease. So important a matter did Dr. Thomson consider the proper distribution of heat in the body, that, by a figure of speech, he pronounced "heat life and cold death," and declared that the most efficient means of curing every form of disease, consisted in "keeping up that heat on which life depends." The heat generated in the animal body, though not itself life, is so sure a manifestation of the presence of life; and the degree of it in any part, is so sure an indication of the condition of that part, that the physician should always study and regard its presence or absence as an important symptom, and equalize it as an indispensable measure in the treatment of every human malady. Besides the application of caloric to vital tissue, that tissue may be excited to its production by the use of friction with stimulants, and by exercise; by electricity and by animal magnetism.

61.—The State and Habits of the Body.

The external appearance of the body, taken in connection with its habits, often gives a very correct diagnosis of its pathological or diseased conditions.

THE HEAD.—If the forehead, or any other part of the head, is permanently hot, and other parts quite cool, and, especially, if it be difficult to equalize the heat by neurological operations, you may be sure that the circulation is not free over the system. The lower extremities and the surface generally, are inclined to be cold. See animal heat.

THE CHEST.—If the chest be small, thin, and thrown back, the shoulders forward and the breast bone sunken in, and of irregular shape; if the lower ribs be turned or rounded under, the clavicles and the sternum be raised or the abdomen be shrunken, and when breathing, easily exhausted, the patient is liable to shortness of breath, dyspepsia, asthma, liver complaint (hepatitis), pleurisy, bronchitis, carditis, pneumonia, pulmonary consumption, etc.

To correct these errors, throw the sternum and abdomen forward, the shoulders backward, sit, stand, or walk erect and give a downward tendency

to all the viscera of the body, and breathe not by the elevation of the breast, sternum and clavicles, but by the expansion of the abdominal muscles.

62.—Palpitation.

Great and sudden excitement of the system, rouses the action of the heart, to an unusual degree; but, the capillaries of the arteries, and the venous radicles, in many persons, do not act promptly enough to carry the circulation through, in obedience to this new impulse; of course the venous blood passes rapidly on to the heart, while the arterial is obstructed in its passages from it; this causes the heart to labor hard and frequently, to restore the equilibrium. The same thing takes place when the surface, from general debility, is habitually too sluggish to generate heat enough to keep it warm. This rapid and sensible action of the heart, is called *palpitation*.

In the first case, the palpitation is only occasional, of short duration, and does but little injury; in the second case, the excessive labor of the heart is constant. The blood being confined mostly to the internal and vital organs, they become the subjects of inflammation, while the surface, for want of its natural stimulus, loses its power to protect itself against external influences, and becomes habitually cold, especially at the extremities. Hence, if your patient complains of, or you detect, a palpitation of the heart connected with general debility, you may know that the feet, hands, and surface are generally cold, the head hot and often painful, and some portion of the internal tissue, as the pit of the stomach, the right or left side of the breast, the shoulder or the loins, is sore or painful.

On the other hand, if you detect, or are told of, the latter conditions, cold feet and hands, etc., you may, with certainty, infer the existence of more or less of the former. These conditions are most likely to be found in the nervous temperament and the lymphatic. The sanguine and the bilious furnish the most instances of the sudden and transient palpitations.

When slight and transient, the palpitation may be cured by plain diet, regular exercise and a judicious distribution of clothing over the body, dressing the extremities warm, the body cool, and the whole entirely free from compression.

In cases of permanent palpitation, great pains must be taken to restore and maintain an equal circulation. The patient should have emetics occasionally, the vapor-bath very frequently, and be rubbed over the extremities with stimulating liniment, and not exposed to a greater degree of cold than he can comfortably endure.

63.—The Abdomen.

If the abdominal muscles are shrunken and tense while the skin over them is comparatively loose, and the patient is disposed continually to bend forward, and especially if there be soreness at the pit of the stomach and in the right side, there is doubtless a contracted diaphragm and a diseased condition of the liver, as well as a cramped and very injurious condition of the lower part of the lungs. This state of the system may be discovered by the patient's habitual stooping and breathing at the top of the lungs, and more particularly and certainly by manual examination.

64.—Leaning Forward.

Constantly leaning forward for a considerable time, is sure to produce what is supposed to be "weakness of the antero-abdominal muscles"—but in fact,

a weakness of the muscles on the small of the back (the ilio-post-spinal and the ilio-costal), and of course a "weak," or "lame back." The abdominal muscles become more tense, instead of weaker by this process. It confines the stomach and prevents digestion; the lower bowels, and prevents peristaltic action and absorption; the lower lungs, and prevents inspiration and vitalization; the heart and the aorta, and prevents circulation; the liver, and prevents secretion of bile, and the pancreas and the kidneys, and impedes the important offices they are intended to perform. Lastly, it produces a pressure of the viscera into the pelvis, which deranges very much the physiological action of the organs there deposited.

If each violation of nature's laws above enumerated, produces a serious mischief, what must be the combined effects of them all? and, if these effects can be produced by leaning forward while standing, walking or sitting, what must be the effect of compressing the whole body with corsets, waistbands, etc., as is constantly done, even both day and night, by our fashionable belles and beaux, of every class and color?

So attentive have we been for years to the duty of keeping the body constantly free from all oppressive positions, and so much benefit have we derived from this course, that we have sometimes almost come to the conclusion that a person could hardly ever, certainly very seldom, be sick, if he would but regard our instructions and follow our example in these particulars. So closely have we watched, in our own person, and those of others, the effects of these ill habits of body, etc., that we can tell from the above examinations, with almost absolute certainty, the character and symptoms of most of the form of disease of the patients that visit us. Many are astonished at this power, and attribute it to magic; though it is nothing more than what many a discerning person may acquire by proper instructions, close attention and careful reflection.

TREATMENT.—The only certain *cure* for these conditions, after the *relief* afforded by a few courses of medicine, with expectorants, is suggested in the preceding paragraph. The most constant attention must be paid to the position, and in breathing, to the expansion of the abdominal muscles, and the relaxation of the whole lower body. All tension and over exertion of the brain and nervous system, must be avoided, and the greatest care to keep the lower extremities warm, must be constantly exercised. The vapor-bath frequently below the waist, with stimulating liniments to the bowels as well as limbs and feet, will be of great service.

PATHOLOGY AND PRACTICE.

1.—Disease.

I HAVE shown what is ease or health, and what is disease—that health may be destroyed and disease produced, by an infinite number and variety of causes. Of these causes I have shown the modes of attack, and the effects produced. I have shown that it is not always necessary to know what they are. The great point is to know how to remove *all* the causes of disease, however, and wherever they attack the human frame.

Remarks.—It is not my purpose to bewilder the practitioner with criticisms on what has been said or written by others, on pathology and practice; but to give him at once, those principles and directions on which he may implicitly rely in his daily operations. He may not always be able to carry out to perfection, the principles I advance, but he may rest assured that they are true, and that if he fails in their application, the fault is not in the principles, but either in the nature or the extent of that application, or an incurable condition of the patient.

I now propose to give the signs more extensively, of the particular causes and effects of disease, with reference to the general, and directions for the particular plan of treatment for each case; in other words to give the symptoms and treatment of the various forms of disease, as designated by the popular mineral faculty; and I would premise here especially, and wish it carefully remembered, that I speak of *irritation*, fever or inflammation, not as a disease, but a *symptom* or *sign* of disease.

2.—Irritation, Aching, Pain.

That degree of nervous excitement which is very uncomfortable, unpleasant, causing continual change of feeling or position, but which produces no very keen, cutting sensation, nor dull, heavy aching, is called irritation. If it amounts to a very uncomfortable feeling, located in some small portion of the body, it is called *aching*. If the sensation is very severe, it is called *PAIN*, though these latter terms are used indiscriminately; thus we say: toothache, earache, headache, etc., which, for their severity are often insupportable, while we say, we have pain in the back, side, bones, etc., when they are so mild as to be no more than slightly annoying to us. The degree, or the character of pain, is generally indicated by adjectives, as “dull, heavy, numb, slight, hard, severe, acute, lancinating, excruciating,” etc. Irritation, aching and pain, then, are words used to signify uncomfortably excited conditions of the nervous system. They are the notices which the nerves give to the consciousness, that some part of their structure is impeded in its proper action. They are the nervo-vital symptoms of disease. The word irritation is also used to signify the excitement of a nerve to an undue degree of action. Irritation belongs to muscles, only by virtue of their nervous endowments.

All irritation, aching and pain, are removed by equalizing the nervous or intellectual and affective action, and the circulation of the blood, and this is properly done not by the use of narcotics, but by agents that promote general relaxation, and excite free perspiration and all the other sensations.

3.—Fever.

As health is that state of the body in which there is a free and universal action of the living principle through all the organic structures; and disease is the incapacity of an organ to receive and manifest this action, it follows of course that, whenever this action is obstructed in one part it will be accumulated in another, as electricity is obstructed by glass jars, and manifests that disturbance by its efforts to escape to surrounding objects; and this condition is called *fever*. This disturbance of equilibrium in the animal functions, will generally be manifested in some one or more of that combination of signs commonly given as a description of fever, viz.: increased velocity of the pulse, heat, redness, pain and swelling, some of which will be present, local or general, in greater or less measure, in all forms of disease, as long as there is life enough to produce them, remaining in the part. In what are called acute attacks of disease, these signs are very manifest; in chronic cases, they are often very faint, but still they exist.

As, in the electric machine, or a person charged with the electric fluid, the proper method of discharging or equalizing it, is to apply conductors to draw it off; so, in the animal machine, we should apply baths, sudorifics, aperients and alterants, and remove from every part, all obstructions to the equilibrium of the vital fluid, and it will pass through the system without creating any disturbance.

Fever, then, is simply an effort of the vital power to regain its equilibrium of action through the system, and should never be directly subdued by depriving the organs of the body of the power to produce it, but indirectly aided, by removing all the obstructions to its free and universal distribution.

4.—Fever, severity of.

Fever, is either severe or light, frequent or postponed, from two causes. If a continued fever be light, it may be because there is much vital power and but little impediment to its action. In this case, the patient will recover without assistance, or more speedily or better with the aid of very simple means, as a little herb tea and a vapor-bath. Or, it may be because there is little vital power and much obstruction. This case requires very active remedies and careful nursing. In the former case, the patient will improve in general health, strength and spirits; in the latter, he will gradually decline in all these respects. In both cases, the fever diminishes in force. In the former, because there is less of obstruction to accumulate its force; in the latter, because there is less power to produce it.

In both cases the indications are, to loosen the tissues obstructed, and to aid them by proper stimuli, in getting rid of their burdens.

5.—Fever, continuity of.

When there is power enough in the system to keep up a continual warfare against the obstructions, and yet those obstructions are so located and confined as not to be entirely removed, the disturbance of vital action being unbroken, the fever will be what is called "*continued*." The power of the system, however, being periodically exhausted by efforts at relief, the disturbance will be periodically reduced, though not entirely subdued, by circumstances, such as the change from night to day and day to night, forenoon to afternoon, evening to morning, etc., and these forms of fever are called *remittents*.

When the surface is not much obstructed, but only sympathizes with the disturbance within, it relaxes periodically, and the febrile accumulations, causes and results are partially dispersed by perspiration. The organs being exhausted by this effort, the reaction and its symptoms are postponed for a while, during which, in the early stages of the disease, the patient seems to suffer but little inconvenience. But there occurs in succession every day, two days or three, a season of lassitude, one of rigors or chills, called agues, one of fevers, and one of perspiration, which last removes again the unpleasant symptoms. This mode of febrile action is called *intermittent*.

6.—Anticipated and postponed.

Usually, these chills or agues come on about the same hour of the day, but it occasionally happens that, in their progress, they come on a little earlier than at first, when they are called anticipating agues; or a little later, when they are said to be postponed. A third day, called a quartan ague, sometimes becomes a second day or tertian; and a tertian a quotidian or every day ague.

This anticipation or postponement may arise from either of two causes. If the obstructions are yielding, and the vital power is gaining dominion, the chills will be more frequent, shorter, and less manifest, and the fever stronger and usually longer continued, until it removes all obstructions, and the vital power maintains its equilibrium. If the obstructions are nearly all removed at each return of the stage of perspiration, but the system is somewhat overcome by that effort; the reaction will be postponed to a later hour or even to a later day, when, to overcome the opposition raised by new obstructions accumulated during the stage of cessation, it will rise again, and expel the offending objects; and this course will be repeated until the power of the organs is so far restored as to enable them to sustain as well as to regain vital action. When there will be no more chills nor fever. Either anticipations or postponements in the chills and fever therefore, when connected with an improvement of the appetite, an increase of the strength, etc., are favorable symptoms. But,

When the chills are either anticipated or postponed, and increased in power or duration, the fever short and feeble, and the patient is growing more feeble and haggard, it is an evidence that the organism is yielding to the influence of the causes of disease, instead of obeying the vital motions, and is a bad symptom. In the former case, the irritation is so great as to cause frequent though nearly fruitless efforts at reaction; in the latter, it is seldom able to make any effort at all, and the organs are generally under the sedative or paralyzing influence of the causes of disease. Either anticipated or postponed agues therefore, if increased in power and duration, and followed by feeble and shorter hot stages, and a diminution of the strength, appetite, spirits, etc., during the intervals, is a bad sign.

The character of fever as quotidian, tertian and quartan, and their subdivisions, is called its *type*.

7.—Cause of Fever.

From what has been said above, it is evident that the direct cause of fever, is the vital force alone; but that the indirect causes of remittent and intermittent fever, more properly the causes of the obstructions to universal vital action, may be any thing that can prevent, for a time, the perspiration of the surface, and, at the same time, so paralyze the internal vital organs, as to check the determination to that surface. Among these causes, there is nothing so effectual as a sudden and extensive loss of vital heat; and, among

the circumstances which produce this derangement, are chiefly two, sudden changes of temperature from dry and hot to moist and cold, and sudden transitions of the subject from rapid exercise to almost total cessation of action. For example:

1. If a person be removed suddenly from the hot sun of noonday, into a deep cave where the water is trickling through every crevice, caused to spend some hours there and then to return, and this be repeated day after day for a time, the balance of his bodily temperature will be so destroyed as to deprive him of the power entirely to recover it, during the time that he is exposed to the sun: or, which is much the same, if he suffer the damp air of evening, which is always found about marshes and in regions of abundant vegetation, to beset him in his porch, in the same clothing that he wore in the same place during the heat of the day, he will soon lose the balance of temperature as before.

2. If he exercises rapidly, in a damp atmosphere, until he is overcome with labor, and then, in a free perspiration, sits down in the same atmosphere, until all the extra caloric thus generated is exhausted; and if he repeats this operation so many times as to deaden the excitability, the result will be the same—chills and fever. If this be done in a dry, or a cold and dry atmosphere the result is more commonly rheumatism than chills and fever.

From the facts above stated, which are results of many years' careful observation, I have no hesitation in saying that intermittent fever is excited, not by miasma produced by the decomposition of animal or vegetable substances (a time-honored scape-goat for professional ignorance), but by sudden transitions from heat to cold which are always greatly favored by moisture. It is not my purpose here to waste time and paper in refuting the erroneous and useless doctrines of others. I leave that for more leisure, and the Recorder, or perhaps a separate work. (See Criticisms.) I have not too much of either now, in which to lay down the true and useful for ourselves.

8.—Names of Fever.

I have said that the names or the words quotidian, tertian, quartan, double tertian, or double quartan, have been given to the different appearances in the progress of fever, which are called its types. Besides these types, it has what are termed its grades and its forms. By its grades are meant the degrees of force (high and low) which it manifests in different cases, and in the same case at different times or stages; synocha is the highest and typhus the lowest. By its forms are meant the different appearances given to it by the different obstructing agents, as bilious fever, spotted fever; or the locality of the excitement, as pleuritis or phrenitis. When the fever is confined to a small portion of the body, it is called inflammation; but no pathologist has ever yet marked the precise boundary between local fever and general inflammation.

"Inflammation and fever have been generally regarded as one disease, and they who have considered them distinct affections have offered no analysis by which their individuality may be established, and by which each complaint may be readily distinguished in practice. Important evils to the sick are therefore in constant progress from this source alone; and when there is added to it the entire darkness in which venous congestion has been shrouded, both in its absolute pathology and as it modifies fever and the recognized forms of inflammation, it may be safely said that a vast opening is here presented for the improvement of medical philosophy, and for the common welfare of man."—*Paine's Inst.*, 710 b.

"It is evident no definite line exists, and that all the individuals belong to a common family."—*Ib.*, 722 a.

As fever is the effort of the vital power through the instrumentality of its proper organs, to remove offending causes of every possible kind, it follows of course that, if the name were to be derived from the obstructing cause as, bilious, scarlet, etc., there would be as many fevers as there are materials or agents in the world capable of obstructing vital action. Or if it were named from the tissue or the organ, as nervous, pulmonic, etc., it would have as many names as there are tissues or organs to be affected. If it be named from its symptoms, as hectic, or its grades as synochoid, it is clear that the fevers might be both numberless and boundless—totally incapable of location or identity. More: It were as absurd to expect the most accurate definition of one case of fever to suit, in all its details, the very next you meet, or indeed any other case, as to expect that every or any other apple tree you may see in your life, shall correspond in the number, size, form and direction of its limbs, leaves and flowers, with that you left in your father's garden.

CAUSE OF FEVER.—It is therefore clearly evident that, while there may be thousands of agents to obstruct vital action, and many a tissue or organ to be obstructed, there can be but one cause of fever, viz: the natural motive power of the system, and but one fever itself, viz: accumulated arterial action. And it is equally clear that, in the treatment of this fever, efforts made to destroy it, are like gage or blows to the friend that cries that your house is on fire; while those made to remove the agents or influences that obstruct the equilibrium of vital action, are like the putting out of the fire until the sentinel quits his warnings. In conformity to the usages of medical writings and of society, I may speak of the cause of obstructions as any thing that stops or collapses vessels, or the obstructions themselves, as the collapsed state of the surface in cold, as the cause of fever: but I mean only the indirect cause, more properly termed the occasion or provocation of the fever. So, for the same reason, and to enable me rightly to direct the proper remedies and processes to the different appearances in the different types, forms and shades of fever, I shall adopt the names and symptoms, as I find them in the most popular practical works, premising that it is of little consequence whether the number be one hundred and thirty-four as in Eberle, several hundreds as in Dunglison, or some thousands, as in Sauvages.

9.—Classification of Fever,

And other symptoms of disease, called nosology, semeiotice, nosography, etc.

I have already intimated that the substances and the agents which cause disease, are almost infinite in number, and I here add that each peculiarity of character in these substances may excite or provoke some corresponding character in the symptoms. How different, for example, are the effects of mercury from those of arsenic; those of antimony from those of lead, and those of cayenne pepper from those of opium!

The forms of disease where no medication is attempted, will be nearly as numerous as the causes, and their effects will be tolerably uniform; that is, these causes undisturbed will provoke a pretty regular train of symptoms which are generally called constitutional symptoms, or essential characters; as those of bilious fever, gout, measles, small pox, scarlet fever, etc. But when these symptoms are doctored with causes of disease for remedies, it is evident that the resulting effects or symptoms, will be different from what they would have been, had the original cause of disease been left undisturbed. For example, Messrs. Wood & Bache say, U. S. Dispensatory, page 348:

"Of the modus operandi of mercury we know nothing, except it probably acts through the medium of the circulation, and that it possesses a peculiar *alterative power over the vital functions*, which enables it, in many cases, to subvert diseased actions by substituting its own in their stead?"

Here we are informed that the agents used to cure disease, change the character of its symptoms, in fact, the whole business of killing or curing consists in changing the character of the symptoms by increasing or removing obstructions to vital action. It follows of course,

1. That the symptoms produced by medicines ought always to be those of health, not of disease. But mercury holds the supremacy over the *vital functions* and of course produces disease.

2. That the symptoms produced in the course and under the influence of one kind of treatment, as the poisoning, will differ very materially from those which occur under another, as the antipoisoning: Let two cases of bilious fever, while the symptoms are the same, be put, one into the hands of a poisoning and blood-letting doctor, and the other into those of an advocate of lobelia, cayenne and the vapor-bath, and the train of symptoms that follow, will be as unlike as midnight and noonday; and the results often as those of death and health! It is therefore evident that the symptoms which usually occur in the course of disease undisturbed, and which are termed essential, are the only ones that are proper to enter into a general system of classification. If the practitioner alters the symptoms, it should be for the better not the worse; and of course the alteration should constantly approach the physiological or healthy state. Therefore those who adhere to our practice, must not expect to see, in the progress of disease, the same train of symptoms, that is given in regular books.

Disease is the inability of an organ to perform its duty. Its *direct symptom*, then, can be but one, deficient action. But the action of other organs, when their brethren are afflicted, may be quite various, according to the character, degree and locality of that affliction; and it is this irregular action, chiefly, that is contemplated as the *index* to disease. It is two-fold: 1. Deranged, excited and increased action of the heart and arteries; 2. Deranged, excited and increased action of the brain and nervous system. By some strange perversion of observation, reason and common sense, these have been made to bear the odium of being themselves the disease. Thus, when fever or delirium indicates obstructions to the circulation and nervous action, men have called this very fever and delirium the disease; and directed all their remedial means to the destruction of their own faithful sentinels, instead of removing the obstructions which excite and derange the actions of the healthy organs; and which obstructions are the only real invaders of the citadel of life. Instead of speaking of the cause or the essence of disease, they say:

Two thirds of all mankind (Sydenham, and Gregory indorses it) die of *fever*, in its acute stages, and two thirds of the remainder die of it in some of its chronic forms; that is, eight ninths of the whole race die of fever. There is no doubt that the other ninth die of accident and old age; it follows, therefore, that, according to these gentlemen, *fever*, general or local, is the very essence of all forms of disease.

Now, pray what is fever? It is the accumulation of vital action for the purpose of removing obstructions from some parts or portions of the system.

1. When this action is concentrated upon a very small part, it is called *inflammation*, and, as the circulation of the blood and the nervous action are *impeded* in this part, the medical treatment must consist in removing obstructions and restoring its vitality.

2. When fever is severe, it produces quickness of the pulse.

3. As the circulating and the nervous action of the animal frame, are the only ones that are ever diffused through it, it follows, of course, that the derangements of one of these or both, will constitute nearly all the symptoms of disease. The circulating and nervous symptoms, will be prominent in all acute and violent forms of disease.

4. The excitation of the nerves is produced by the vital principle and by the circulation, and that of the *blood-vessels* is produced by the nerves; therefore, when the circulation is determined upon a sensitive part of the body, the result is, that more or less pain is produced, which pain is the sensation felt by the nervous system in consequence of the opposition of the diseased conditions to the circulatory and the nervous equilibrium.

As there can be no inflammation without irritation, and no suppuration without destruction of vitality; and, as there can be no paralysis without a suspension of the nervous action, it therefore follows, of course, that, to equalize the circulation and the nervous action, and to maintain that equilibrium, is to cure all forms of disease.

The mode of doing this, consists in removing obstructions from the parts where they are accumulated, and in stimulating those parts to healthy action; and the means by which this is best effected, are found, by long and successful experience in the treatment of all forms of disease, to be warmth and moisture, combined with relaxing medicines, as the warm and the vapor-bath, lobelia and the aromatics; the use of cayenne, ginger, xanthoxylum and other stimulants, combined with some portion of tannin, as in bayberry and sumach, to neutralize the phlegm, canker, etc. The same means, except the tannin, are also proper to relieve pain, as this is the result of the concentration of the nervous action on the part to which those nerves which feel the oppression are distributed. In other words, the plan of removing fever, inflammation and pain, consists in equalizing the circulation and nervous action, and supporting that equilibrium. The means of *supporting* the equilibrium are, what are called tonics. They consist in proper food and exercise, fresh air, and the various kinds of bitters—stimulating and relaxing, or astringent, as the case may require.

10.—Fever and its Treatment.

I have before given a general view of fever, its causes, both exciting and producing. I have also given its principal variations and effects, and general directions for the treatment of nearly all its forms. I will here be a little more particular, as I have shown that fever, general or local, is a symptom of every thing that is called disease.

CASE 1. When a person in good health generally, "takes cold," that is, loses too much heat of the surface, as he does when, after laboring hard and wetting his clothes with perspiration, he sits down in the cool shade, or in a draught of air through a passage (though he might have continued his exercise in such circumstances with impunity), the emunctories, that is, pores of the skin, being open and moist, the caloric of the body combines with the moisture, and, the evaporation continuing after the exercise ceases, the pores become too much closed, and the surface, for want of the generation, by continued exercise, of heat enough to keep them sufficiently open to depurate the body, becomes too much closed, and, consequently, more or less chilled. The steps leading to this result are, first, an agreeable sensation of coolness, which lasts until the excess of heat above the natural quantity is exhausted. Second, a state of lassitude, or insensibility to either heat or cold, and indifference to

action, and this occurs sooner if the mind is active than if it is not. After this temporary rest from excitement, the internal organs, the nerves and blood-vessels, are again roused to action, when it is found that the escape of caloric, during the state of internal lassitude, has left the pores so much closed that the reaction, termed fever, is not sufficiently strong to open them. This accumulated action produces irritation of the nervous system, and more or less disturbance of the brain, sometimes even delirium.

One of three methods is now pursued by medical men, to relieve the subject. The first method is by what are called "regular physicians," whose regularity consists in little else than in regularly opposing the *vis viva*, the vital principle, in her efforts to remove from her domain all obstructions to her free and universal action. These directly attack, with the lancet, opium and other poisons, the power that produces the fever, instead of opening the pores and removing the obstructions to its equilibrium.

I can not conceive of a more stupid course of conduct. When I consider that this is the plan pursued by the largest profession of men in the world, and one which boasts of more general science than is possessed by all the rest of mankind put together, especially the knowledge of the laws of vitality, I am perfectly amazed! Truly, if the hight of wisdom is the inheritance of the doctors, it is most intimately blended with the most profound ignorance, stupidity and folly!

The second is more in harmony with nature. It consists in stimulating the vital organs to an action sufficiently strong to force a crisis; that is, to open the pores and promote perspiration. Dr. Samuel Thomson had this plan in his mind when he said, "When the fever fit is on, give cayenne or composition until perspiration appears on the forehead," etc.

The third plan, still more rational, consists in giving diffusive, antispasmodics, as lobelia, catnip, sage, etc., which relax all the tissues, and, of course, relieve the stricture of the surface, and permit the egress of morbid matter from it, if there be action enough within to send it there.

The fourth and best method, is a combination of the second and third. It consists in giving the bland teas, such as catnip, sage, balm, spearmint, peppermint, boneset, etc., and applying, at the same time, moisture to the surface, by putting the patient into the bath and washing him all over with water, just so warm or cool as to be agreeable to him; or sponging him in bed, if he can not be moved, until the fever is dissipated, with the chill after it, if any occur, and the whole surface of the body becomes of a *natural* warmth, the surface is clean, the perspiration is free, and the patient feels comfortable, when a quart or two of cold water may be dashed upon his head or into his face, and down the breast and spine (it is done best through a cullender or water pot), when, as I said in the commencement of this article, if the patient was perfectly well before he lost the heat (took the cold), and the process was commenced as soon as the fever rose, he will be as well as he was before, and may go about his business.

CASE 2.—In all respects the fever is the same as case first, except that it has been of longer standing, has risen and intermitted, or at least remitted once or more.

In this case the obstructions are not merely on the surface, but have accumulated within, especially in the alvine canal, and, generally, in the lungs or head, or both. The fever is, of course, proportionately limited in extent—all the obstructed parts being partially paralyzed. If, now, you commence "when the fever fit is on," you may work as before, but you will find the fever to subside sooner and more completely, and the system to become more pros-

trate while in the bath. The surface being open, there is no obstruction to the egress of morbid matter; but perspiration does not take place for want of centrifugal force. You must now give stimulants, pennyroyal, peppermint, ginger or cayenne, to increase that force, and continue this stimulating process, with the bath, washing the surface with warm water and soap, until the perspiration is free and clean (not slimy), when you should wipe the patient dry, and dress him or put him into bed, and then give him an emetic as directed for a course; or, more simply, thus:

To an ounce (or a large tablespoon heaped as much as will lie on it) of composition powder, add two quarts of boiling water; when steeped ten or fifteen minutes, pour off a wineglassful of it, add water enough to cool it, so that the patient can drink it, sweeten to his taste and give it. Pour out another wineglassful, add as much hot water, and pour into it three teaspoonsful of powdered lobelia herb, or one and a half of the seed, and let it stand where it will keep warm. In five minutes give the second cup of composition, in ten more, a third cup, and in ten more, half of the lobelia, strained, unless the powder be very fine, when it is better to give it with the dregs. Now give of the composition tea, a teacupful every ten minutes, until you have given two or three, when, if the patient has not vomited freely, you may give the balance of the lobelia, and follow it, as before, with the composition, until the stomach is thoroughly cleansed, filling up the vessel of composition if necessary. If the nervous system is much disordered, put half a teaspoonful of nervine into each cup of tea, and if the stomach is sour, give a little saleratus, a fourth of a teaspoonful, in each cup of tea.

After the stomach is thoroughly cleansed, which may be known by its throwing up dregs of food and medicine, and feeling perfectly easy, and sometimes craving food. When a little milk porridge or corn gruel may be given to advantage. In rare cases, the irritation and vomiting continue for some time. If the patient continues to throw up phlegm or canker, continue the composition tea, and let him vomit as long as he chooses; if he throws up nothing but the tea, give him an enema of the composition tea, and it will generally, either make him vomit freely, or settle his stomach. If this fail, put him into the bath and continue the tea; or substitute for it ginger tea, or a tea of any of the above named herbs, and the stomach will either become quiet or throw up what remains in it.

It is always good to give an enema and a bath *after* the emetic, as it is important to finish all your medical operations with a determination downward and outward.

The patient is now relieved of his fever, but, because the obstructions were more extensive in the system, the organs are more debilitated than in the preceding case, and therefore you must give for several days, the relaxing and stimulating alterants, as the laxative bitters, to keep up the depurating process, and, perhaps, you will need to repeat the course once or twice before the patient is fully restored, using the alterants between the courses, with occasional enemas, and stimulants to the lower extremities and the surface, if they are inclined to be cold.

CASE 3.—The fever may recur every day, every second or third day, and, if so, you must treat it as I have directed in the second case, giving the bath thoroughly and for a long time, especially after the emetic, and then you may give, in the intervals, of the courses, boneset, five or six times a day, either in a strong tea or a pill of the extract; or the bark of the root of ptelea trifoliata, and as much bitterroot as the bowels require. This may be taken in the powder, in conserve, or tinctured in vinegar; or a teaspoonful of equal

parts of cayenne or grated nutmeg in a glassful of native wine or a teaspoonful of equal parts by measure, of cayenne and pleea, taken five or six hours before the chill is expected, will prevent its repetition. This treatment may seem somewhat different from that which I gave in other places, but, in reality it is only using different means to carry out the same principle, which is to remove obstructions and tone up the system. See *intermitting fever*, for minutiae.

CASE 4.—When the obstructions to vital action are all diffused through the general system before any great degree of irritation takes place, and the exciting cause is suddenly applied, the efforts at reaction are intrahled within as well as without, and, of course, the result is not very manifest—the pulse is quick but small and feeble, the muscular system is prostrate and the brain is weak and confused. This state of the reactive power is termed *typhus* or *hidden, concealed fever*. If the oppression is not very great, it is called *typhoid*, simulating *typhus*.

In this case, the course should be very relaxing, for, though, as I said, the system *appears* very prostrate, it is because of the morbid tonicity of the internal organs; the ordinary degree of vital force in the voluntary system, having been determined to the oppressed tissues to relieve them from their thralldom. A judicious and steady use of the powerful and permanent anti-spasmodics, as lobelia, bitterroot, and enemas, in obstinate cases, or sage and boneset in mild ones, with a gentle emetic when the fever rises high in spite of them, and the bath, when the surface requires it, will equalize the circulation and remove the exciting causes of the fever, when the nervines as cypripedium, scutellaria, spearmint, sage, catnip, balm, asarum, ginger, and other aromatics will regulate the nervous system.

Some of our friends are very fond of giving active physic in this form of disease, and I am, as much as they, in favor of keeping the whole alvine canal free of offensive matter; but I find myself abundantly able to do this with a common dose of bitterroot or blackroot, with enemas and the bath. Those who can not succeed in this way, or those who will not carry it out faithfully, use more active medicine, and, if they use it with nervines, and diffusive stimulants, they get along very well; but it is of the utmost importance in all cases of a typhoid character, to avoid drawing the determination inward. I have known a dose of active physic to put beyond the reach of hope, a patient that might have been easily saved by a judicious treatment. And I have known, also, errors to be committed on the other hand. It is necessary to keep the alvine canal clear by some means; the only question is, how shall it be done? If given in a state of nosodynamia or morbid tension of the alvine canal, the severest cathartic often fails, when, if the system be first thoroughly relaxed, a very mild one will not only succeed, but do far more good than the severest will without this relaxation. And, let it be remembered that lobelia, bitterroot or boneset, the nervines and the vapor-bath, are the best means of producing this state sought by the use of physic.

CASE 5.—It sometimes occurs that, by the general collapse of the centrifugal vessels or arteries, the blood is impeded in its course toward the nutritive tissues of the general system, while the same collapsing power which produces this effect, forces it through the veins to the heart; and now, for want of room in the nutritive tissues, it is forced upon the lungs, the liver, the spleen, the brain and other glandular tissues; this is called *congestive fever*. It differs from the *typhus* fever in indicating less irritation in the general tissues, and less strength or propelling force in the heart and arteries. It is, however, generally, easier to relieve the oppression in this case than in *typhus*;

as you have only to open the surface and administer a little stimulating medicine, and the work is done for the moment; still, as it is a case of great debility, you must administer for some time, the means proper to keep up the action gained, which are the stimulating alterants, such as ginger, xanthoxylum, ptelea, boneset and cayenne; the stimulating aromatics, as pennyroyal, peppermint, dittany, horsemint, etc.; and great attention should be paid to rubbing the surface, with various kinds of irritating liniments, as cayenne and vinegar, third preparation, etc., after the bath, for the purpose of inviting the blood from the congested organs, and maintaining the centrifugal determination. If the congestion is on the brain, these liniments should be applied to the feet once or twice a day, after bathing them in warm water and family soap, or a handful of hard wood ashes. In severe cases, it will be necessary to apply to the feet, after bathing, a poultice of corn meal into which a dessert-spoonful of best powdered cayenne has been stirred. One so tempered, will generally remain all the time without being too severe. The quantity of cayenne must be so reduced that it will not be painful, though it may and should produce a good degree of redness. In the mean time, the bowels should be often excited by a strong stimulating enema, several times a day, and night too, unless the disease yields readily to the medicine.

It not unfrequently happens that cases combine the symptoms of the last two that I have mentioned, and these are called congestive typhus. Of course, the treatment should be combined.

CASE 6.—When the irritation is confined principally to a small region of the body, or a particular organ, so as to invite the extra vital force of the system there to defend it, the medical world have agreed to call it inflammation, and also to consider it disease, something else than what we call it, merely local fever.

It may be seated in the brain, the lungs, the liver, the kidneys; or in the membranes, as the meninges; the pleura, the peritoneum, etc.: but, wherever it may be found, it is the same thing, local fever, and requires the same character of treatment, namely: the general relaxation of the system, the attraction of the action from the part affected, and the distribution of it over the whole body.

The *means* are the same that I have recommended heretofore, namely: warm, bland teas, as sage, catnip, balm, spearmint, boneset, nervines, enemas the vapor-bath, and friction with stimulating liniments, followed by a stimulating plaster over the seat of the inflammation, and to the lower extremities, in mild cases; and, in severe and obstinate ones, a thorough course first, followed by the above teas, friction, etc., with broken doses of lobelia and with bitterroot, and a little blackroot, where the bowels are constipated. The bath should be given often.

If the first course has been thorough, and the secondary treatment has been energetic and unremitting, a second full course will seldom be needed; but, if slackness in the intermediate or alterative treatment be permitted, the determination will return to the seat of the inflammation, the stomach will be filled with phlegm and canker, and will become debilitated, course after course will be necessary, until both the patient and the practitioner will be tired of the labor and fatigue; the former will perhaps die, or change his treatment, and the latter will lose his business and his character. And this will perhaps take place with some physician who has been well instructed at the schools, while some illiterate practitioner by his side who knows little else than how to "give a plenty of medicine," as I have here directed, will cure nineteen out of twenty, if not forty-nine out of fifty of such cases.

I will now notice a few localities of this inflammation and give their general treatment.

1. *Inflammation of the brain.* See *phrenitis* for symptoms.

It matters very little whether it is the substance of the brain, pia mater, or arachnoid membrane, that is inflamed. The indications are, to relax the whole system, to open the pores, and to attract the action to, that is, produce counter-irritation on, the whole surface of the body, especially of the lower extremities. I have just above given the means under the general head, *inflammation*.

Ways.—Give the teas freely, warm and weak, for an hour, then an enema and put the patient into the bath (the horizontal is preferable), apply the vapor to the feet, and wash the whole body over at once with warm water and soft soap, wetting the head frequently with cold water, and laying on it a cloth which should be wet as often as it becomes hot. I think pretty cool water, as well or spring water better than ice. Some recommend putting the head all over in the bath. (Ward.) This is not bad, for, although it is directly the reverse of cold water, it produces one important effect, to open the pores of the skin and give vent to the excitement by perspiration, while the cold water gives vent to it, by absorbing the caloric which aids in removing morbid matter, by closing the vessels so as to force the circulation in the contrary direction. Either course will answer well, if due attention be paid to counter-irritation with the bath, stimulants and friction.

Sinapisms.—These consist of bruised mustard seed wet with hot water and put upon a part. In phrenitis they are put upon the feet and sometimes also upon the back of the neck, on the wrists, arms and even the inside of the thighs and over the stomach. If the mustard alone is used, it will soon draw a blister, which is not to be tolerated, though in this case there would be nothing but a burn—no poisoning of the blood by the salts of cantharides. Still it is wrong for two reasons; first, it is not right to make a large sore merely to cure inflammation; and secondly a slight irritation extensively diffused and long continued, will do more good than the severest blister. I therefore make a poultice of two or three ounces of corn meal, and mix into it an ounce of mustard seed, this can be worn until it is dry, and will produce, on most persons, only redness. If it does not act enough, that is, produce considerable redness without blistering, put a little more mustard into the next, as it is easier to keep up inflammation than to start it. In place of the mustard, I generally use a mush and elm poultice, sprinkled over with cayenne, which will do the work without producing a blister. If, however, a proper attention be paid to the bathing and friction, there will be very little need of any of these poultices.

After the circulation is somewhat equalized, give a thorough course, to clear out all morbid matter, then follow with the alterative treatment as above.

The patient should be kept free from all anxiety of mind, reading or conversation, and from noise and bright light, and fed on a very mild vegetable diet. He should have fresh air in his room, fire enough to keep him warm, and warm teas sufficiently often to keep his surface pliant, free from dry huskiness, or burning heat. The clothing should not be excessive, particularly about the head and chest.

Inflammation in the ear or eye, should be treated in the same manner with poultices of lily root, slippery-elm, and lobelia to the part. Inflammation of the throat in the same way with a bandage round the neck kept constantly saturated with a decoction of cayenne in vinegar; and the use, first of gar-

gles of the same diluted with water, and then gum arabic or slippery-elm or some other mucilaginous substance.

In all these cases, neurological operations will be found to aid much in relieving the patient.

Prevention.—Keep the feet, legs and bowels warm, the chest loosely and lightly dressed, the head cool, the mind quiet and calm, and the passions well regulated; alternate a reasonable amount of physical exercise and sleep, with mental labor; live on coarse but good vegetable diet—such as good bread, potatoes, and other roots, fruits, etc., *without* spices or acids; to which may be added good milk (to those whom it does not make dull and stupid), good sweet butter, and, perhaps, a little maple molasses, or Orleans, or sugar house, if it contains no spirituous taste. However many persons may suppose that they escape from the evils I shall mention, there is nothing more clear and certain to my mind, than that fattened meats of all kinds, tea, coffee, spirits, tobacco, and all high seasoned food, such as pies, cakes, sweet meats, pickles, etc., are, in their nature, opposed to a clear, cool head—a quick and powerful intellect,—and still more to that quietness and firmness of the passions, which enables one to command either himself or the little world of mind in which he sports his day.

Inflammation of the pleura.—Pleurisy.—This is well treated of in the proper place, among the various forms of disease. It being seated lower down than phrenitis, the counter-irritation will be distributed over the whole body, in the same manner as for phrenitis, but the attention to the head there directed, will be unnecessary in this case. The stimulating poultices should be applied to the chest, and wherever there is a want of action.

Inflammation of the stomach and bowels.—Here again the action must be brought to the surface and sustained there, and the most nutritious articles should be taken for food, and used by injection. A full course is generally necessary.

Inflammation of the peritoneum.—This case requires treatment very similar to the preceding. It is only a little lower down. The action should be called to the surface and maintained there.

Inflammation of the kidneys.—Here, too, the disease is internal, and there is no means of making an application *directly* to the organs. The plan, as before, is to equalize the circulation by counter-irritating cataplasms, and the use of the most soothing diuretics, as slippery-elm, asparagus roots, parsley, comfrey, dandelion roots, watermelon seed tea, and the like, until the urine is free, and of a natural color.

Inflammation of the uterus.—This is the same affection, only of a different organ. The same course must be pursued in this as in the peritoneal inflammation, and the same means must be used. The course is particularly pointed out in the general directions at the head of this article.

Inflammation from internal injuries or obstructions must be treated in the same manner, though it requires long perseverance to remove the obstructions which are not always prevented at last from forming adhesions, abscesses, tumors, etc.

Inflammation from external injuries, must be bathed with warm water, and covered with warm poultices of slippery-elm and other emollient substances, with bitter herbs and lobelia (see poultices), and the general health must be well attended to.

Inflammatory fevers, exanthemata, as rash, scarlet fever, erysipelas, measles, small pox, chicken pox, are all treated of in their proper places with sufficient minuteness.

11.—Chronic Disease.

Chronic disease is of two kinds: first, that in which obstructions to the vital operations are introduced by almost imperceptible degrees, until the whole system, or at least, some entire apparatus of the system, has become so enthralled that it is able to make but a feeble resistance. The organs are not deprived of their vitality, though they are much fatigued by irritation and ineffectual efforts to rid themselves of their burden. The difficulty and danger in these cases, and the prospect of success in their treatment, depend on the properties of the obstructing causes, and the character and offices of the organs they attack. If the causes are very destructive, as the taints of consumption and scrofula, and if they attack vital organs, as the stomach, the liver, the lungs, heart, etc., the danger is greater and the process of cure much slower. The plan of treatment however, must be, thorough courses, with proper alteratives, food, air, exercise, etc. See consumption, dyspepsia, etc.

Secondly, chronic disease is the result of bad treatment of disease in its acute forms; and this is by far the most common. I have seen ten cases of dyspepsia, liver complaint, consumption, dropsy, etc., that were caused by blood-letting, mercury, opium, and other poisons, where I have met one that was brought on in a natural way by gradual aggressions from the ordinary causes of disease. And, what is very important to be remembered, these means so nearly deprive the organs of their vitality, that, even after the removal from them of all morbid matter, or offending causes, they are scarcely able to recover their activity and force forever afterward. I have never known a person that had been often and severely bled, or in like manner mercurialized, that afterward recovered his pristine activity and vigor.

The manner of treating these cases, is, however, the same as that of the former, with the addition of cleansing, washes, poultices, salves, etc., in those cases where the disease has progressed to external ulceration.

The greatest caution must be taken, to secure to the patient proper food, air, and exercise, a cheerful countenance and good company.

12.—The Fundamental Error, of Allopathists.

The great fundamental error of allopathists, that foundation stone on which all their other errors in both theory and practice are based, is their counting irritation, fever and inflammation *disease*, dividing them out according to their ordinary or their accidental manifestations, and combatting them with means and processes, calculated to depress and subdue the organic power that produces them; instead of counting them vital signs, or symptoms of disease, and aiding them in their efforts to remove obstructions to their normal or healthy action, and to recover the equilibrium of their dominion over the vital organs. The following will prove this assertion:

13.—Opinions on Vital Action.

Prof. John Thomson who succeeded the celebrated John Hunter in the chair of Surgery in the London University, says:

"Of all the *morbid affections* to which the human body is liable, *inflammation* is not only one of the most distinct in its forms (see Paine, No. 710 b), and important in its consequences; but it is also by far the most frequent in its occurrence (Crit., No. 387). Indeed, there are no external injuries of which inflammation is not the almost immediate effect, and but

few if any local diseases, of which it is not, in some degree or other, to be regarded as a concomitant, cause, symptom or consequence.”—Criticism, No. 30—also Nos. 40 and 44; 41 and 45.

Prof. Marshall Hall of England, and Bigelow and Holmes of Boston, say: “The doctrine of inflammation is the most important in the Theory of Medicine and Surgery,” and they refer us to Prof. Thomson above quoted, for a true explanation of it.—Crit., No. 29.

Prof. Gregory of England, said: “The doctrines of fever are of paramount importance, and therefore constitute, with great propriety, the foundation of all pathological reasoning.”—Crit., No. 28, and 35 and 37, also 38.

Prof. Watson of London, says: “Inflammation must needs occupy a large share of the attention, of both the surgeon and the physician. In nine cases out of ten, the first question that either of them asks himself, on being summoned to a patient is, ‘have I to deal with inflammation here?’ It is continually the object of his treatment and his watchful care.”—Crit., No. 31.

Prof. Martyn Paine of the University of New York, says: “The most important principles in medicine, are those which especially relate to inflammation and fever”—(Crit., No. 32); and he adds: “Inflammation and fever are the two orders of *disease* that make up the great amount of human maladies, and form the grand outlets of life.”—Crit., No. 41.

Gregory says: “Fever is the most important, because the most universal and the most fatal, of all the *morbid* affections of which the human body is susceptible.”—Crit., No. 38.

Medical professors and writers have never been able to determine whether fever and inflammation are disease or not (Crit., compare Nos. 40 with 44; 41 with 45; 39 with 42); or whether they are the same or different afflictions: and yet they all agree to call them disease (Crit., No. 35), and to make them “the foundations of all their pathological reasoning.”

Watson says: “Inflammation is a *disease* that meets us at every turn—a large share of the premature extinction of human life in general, is more or less attributable to inflammation.”—Crit. No. 40.

14.—Ignorance of Inflammation—Quackery and Murder.

Of fever and inflammation, they confess, in the language of Prof. Gregory, that they know less than of any other subject in the whole circle of medical science, and that “its pathology is so obscure that it affords but little help in determining the plan of treatment.”—Crit., No. 35.

Prof. Bartlett of the University of New York, says they “have not even the materials for a theory of fever.”

“Fever and inflammation have generally been regarded as the same disease, and those who have counted them different afflictions, have offered no analysis by which they may be distinguished in practice.”—*Paine's Inst. Med.*, 710 b.

Notwithstanding their full confessions, as above, of their profound and universal ignorance of the whole subject and every part of it, they all agree as one man, to call irritation, fever and inflammation disease. They divide them into three general classes, nervous, febrile and inflammatory. They combat the first with the deadly narcotics which break down and ruin the tissues, whose deranged actions they call hypochondria, and hysteria, mania, neuralgia, etc.; and which, after fighting them awhile, they leave worse than they found them.

The second and third they fight with lancets, mercury, antimony, digitalis,

etc., "until the unhappy patient has been so far and fatally drained of his living principle that there is no longer any rallying or reactive power remaining, and gives up the ghost, in a few hours, to the treatment instead of the disease."—*J. M. Good, Crit.*, No. 67.

15.—Nosology.

Prof. Gallup who has done it as systematically if not scientifically as any other man ever did, follows the learned Dr. J. M. Good, in dividing the vital symptoms of disease, according to the tissues on which the deranged action is manifested, thus :

1. DIATHESIS SYNOCHOIDES.

SYNOCHA.—*Sthenia rigida*, with exalted phlogistic diathesis. Tonicity rigid, with high fever.

SYNOCHUS.—*Sthenia mitis*, with mild phlogistic diathesis. Tonicity mild, with moderate fever.

2. DIATHESIS TYPHOIDES.

TYPHUS GRAVIOR.—*Sthenia oppressa*, with much inability of function; irregularity; inthrallment; pulse rapid, feeble, wiry. Tonicity or power much oppressed, etc.

TYPHUS MITIOR.—*Sthenia lenis*, with less oppression and inability of function; mild typhoid habit; feebler.

Other authors add other classes, consisting of a combination of these, with local affections, and thus they include all forms of disease. See Compendium of Eberle, left-hand column.

Prof. Gallup divides the above two great classes of symptoms into eleven orders, as follows :

ORDER I.

Diathesis fervida fibrosa (*Habitus phlogisticus*—*Sthenia*). Strong excitement in the fibrous tissues; character, high fever.

ORDER II.

Diathesis fervida mucosa (*Habitus pyrecticus mitis*—*Synochus*). Strong action in the mucous tissues; grade of fever, mild.

ORDER III.

Diathesis fervida serosa (*Habitus typhoides mitior*—*Sthenia lenis*). High action in the serous tissues, mild typhus, oppressed.

ORDER IV.

Diathesis fervida complexa (*Habitus typhoides gravior*—*Ataxia et adynamia*). Strong complex action. Habit (character, grade, action), severe typhus; irregularity of action and extensive loss of function and muscular power.

ORDER V.

Diathesis fervida eruptiva (*Habitus phlogisticus*—*Sthenia*). High fever with eruptions. Character hot, and action strong.

ORDER VI.

Diathesis glandularis indurata et impostumosa. Hardening and suppuration of the glands.

ORDER VII.

Diathesis capillaris adstricta. Spasms of the capillaries.

ORDER VIII.

Diathesis muscularis adstricta. Spasms of the muscles.

ORDER IX.

Diathesis spino-encephalica depravata. Disease of the brain and spinal column.

ORDER X.

Diathesis ossea depravata. Disease of the bones.

ORDER XI.

Diathesis specialis. Particular affections which can not be ranged into any of the ten preceding classes. Some of these states of the general system are discoverable, in a modified manner, in every constitutional affection, whether acute or chronic.

He now proceeds to locate the inflammatory action on the different portions of the fibrous tissues, commencing with the highest grade of fever, called *synocha*, and, giving it a general definition as it manifests itself everywhere; and adding his plan of treatment by depletion and poisoning, which, of course, I do not approve.

He then specifies as follows:—

16.—Spinal Diseases.

Inflammation of Fibrous Tissues, Empresma, Cephalitis.—Inflammation of the investing membranes of the brain. (The reader will bear in mind that the termination, *itis*, to the name of an organ, signifies inflammation of that organ.) He then proceeds:

Scleritis, ophthalmia; tonsilitis, quinsey; parotitis, mumps; otitis, ear-ache; odontitis, inflammation of the membranes investing the teeth; *linguitis*, inflammation of the tongue; pharyngitis; laryngitis; tracheitis; pneumonitis; pleuritis; carditis; diaphragmatis; gastritis; enteritis; hepatitis; splenitis; nephritis; cystitis; prostatitis; urethritis; orchitis; metritis or hysteritis; mastitis, inflammation of the breast; periostitis; paronchia, felon or whitlow, etc.; phlogosis; and phyma; furunculas, or boil.

In his second division, he has inflammation of the joints or the facia—investing membranes of the muscles. These he calls, rheumatismus; lumbago; phlegmasia dolens, or milk leg; podagra; arthritis, or gout; and hydrarthrus, white swelling; for each of which he gives a specific train of symptoms; and then he directs a general treatment of the depletive and antiphlogistic character.

This tissue—the fibrous—being dense, obstructions to its action will be annoying, and the reaction strong; of course he gives a high grade to the character of the fever or inflammation.

As he, and his confreres, consider all these vital manifestations, *disease*, and combat them with narcotics, lancets, antimony, digitalis, mercury, etc., so I, being a reformer of his errors, consider them all manifestations of the efforts of the vital force to regain its equilibrium of action; and I aid it by the use of relaxants, nauseants, emetics, sudorifics, vapor-baths, enemas, etc.; and, when the diseased part is accessible, I apply to it special remedies, according to the principles already given.

17.—Difficult Diagnosis.

In the case of the inflammation of internal organs, neither the allopathists nor the reformers can always learn in what particular organ, much less on what tissue, the deranged action or the debility is located, and therefore we may be thankful that the same treatment that is suitable for one portion of an organ or tissue, is equally good for every other portion.

18.—Inflammation of Mucous Tissues.

But now we come to the second order of Dr. Gallup—inflammation of the mucous tissue—a high grade of fever, but not so high as that on the fibrous tissues, because being more vascular, or loose and elastic, the obstructions are not so firmly established but that they can be removed by a weaker effort of the vital force. The fever here therefore is termed *synochus*, a grade milder than *synocha*, still it is the same fever—arterial reaction; produced by the same cause—the vital force, obstructed and excited.

19.—Acute Disease of the Mucous Tissues.

Catharrhus communis, *coryza*, common catarrh, or excessive discharge of mucus, from any part of the mucous membrane, as the nose; *catarrhus epidemius*, *influenza*; conjunctivitis; *aphtha*, sore mouth; *thrush*; *tracheiūs*, *croup*; *pneumonitis*, from *pneumon*, the lungs; *pertussis*, hooping cough; *febris gastrica*; *erythema gastrica*; *enteritis mucosa*; *gastro-enteritis*; *febris biliosa*; all which, being internal inflammation, Dr. Gallup and his profession, treat as they do the same affections of the fibrous tissue, by depletion and poisoning; and we treat them as we do the former, by equalizing the circulation, soothing the alvine canal, and restoring a proper action to the surface.

20.—Chronic Affections of the Mucous Membranes.

Then, the doctor has chronic affections of these mucous tissues, as that stage of the disease in which the vital force, having been partly overcome, has yielded the tissue to the debilitating influence of the causes of disease. Of these he names, *ptyalismus*, salivation by mercury; *asthma*; *diarrhea*; *leucorrhea*; *blenorhœa simplex*; *B. virulenta*; *gonorrhœa*, *clap*; *syphilis*; *hydrops uteri*; *H. tubalis*; *H. ovarii*, etc.; in which he supposes the “*diseased action*”—inflammation—to have nearly ceased; and therefore he treats them with tonics, as iron, bark, wine, etc., while we cleanse the whole system as well as its parts; and treat the whole man with innocent stimulants.

21.—Hemorrhages.

Now come the sanguinary discharges from the same membrane, as *epistaxis*, nose bleeding; *hemorrhagia laryngis*; *hemoptysis*, spitting of blood; *hematemesis*, vomiting of blood; *hemorrhagia intestinalis*, bleeding from the bowels; *hematuria*, bloody urine; *hemorrhoids*, bleeding piles; *menorrhœa*, bloody menstruation; and *hemorrhagia uteri*, a bloody discharge from the uterus. These, if acute, he treats with depletion and antiphlogistics; if chronic with tonics and astringents; while we relax and purify the system, then stimulate and tone it.

22.—Inflammation of Serous Tissues.

In the inflammation of these tissues the fever is of the typhoid or low grade, the system being much oppressed with obstructions, and its vitality low, we

have *typhus minor*, or mild typhus; pleuritis mitis, mild pleurisy; peritonitis mitis; arteritis; phlebitis, inflammation of the veins; delirium tremens; mania a potu; empyema, pus in the cavities, etc.

23.—**Hydrops.**

Dropsy is simply the discharge into serous cavities, or cellular tissues, of the perspirable matter that should be constantly passing from the surface in what is called insensible perspiration; or occasionally in a free perspiration. It is in the serous tissues, what diarrhea is in the mucous; an evidence of debility in them, and of excessive tonicity, or of obstructions, on the external surface. It is prevented by keeping up healthy action and free perspiration; produced by checking these, and cured by restoring them. It has but one form or nature; but Dr. Gallup and his allopathic associates, and all reformers but the physio-medical, give it as many names as there are localities for its deposits, thus:

Anasarca, dropsy in the flesh; hydrops darti, dropsy in the scrotum; hydrocephalus, dropsy in the head; edema, dropsy in the feet; hydrorachis, dropsy in the spine; hydrophthalmia, dropsy in the eye; hydrothorax, dropsy in the chest; hydropericardia, dropsy in the heart case; ascites, dropsy in the abdomen; hydrocele, or hydro scroti vaginalis, dropsy in the tunica testis, etc.

24.—**The Unity of Disease.**

In all the forms of disease heretofore enumerated, we have first the obstructions to a free circulation; next the reaction or fever and inflammation, and lastly, the prostrate condition of the tissues in consequence of laboring so long without relief. The febrile or inflammatory symptoms are the vital, which ought to have been aided in their efforts to remove obstructions; the passive discharges, dropsy, etc., are the symptoms of disease or debility, which should have been prevented by removing the obstructions before the tissues were fatigued and prostrated.

25.—**Complex Disease.**

We now come to an order of disease, which Dr. Gallup calls complexa, which signifies the union, in the same case, of all the preceding forms of disease. It follows that, if any plan of treatment can be devised, that will cure this "complexa," it will cure all its elements, as the greater always includes the less; and therefore this one treatment only, might be recommended, and the student saved the perplexity of burdening his memory with the others.

The complexa, we understand, are cases in which the nervous and the inflammatory disturbances are communicated to all the tissues, the fibrous, the mucous, the serous, already considered; and we may, with equal propriety, extend it also to all the other structures, the muscular, the capillary, the glandular, the osseous, the nervous and the dermoid. The idea of confining nervous or inflammatory excitement, for any considerable time, to one tissue or organ, is, to the mind that has but the slightest knowledge of anatomy and physiology, absurd and ridiculous.

Let the reader consider, for but one moment, the anatomical fact, that there is not, in all the arterial system, from the semilunars at the base of the aorta, to the extreme capillaries of any part, a single valve to obstruct the passage of the blood to every part. Let him further recognize the fact that the heart throws the blood with equal force in every direction, and that the arteries are

elastic, capable of contraction and expansion, in obedience to the action of external causes, as cold, heat, rest, activity, compression, abstraction, oppression, etc. Is it not evident that, should the capillaries of one tissue become suddenly warmed and expanded, or greatly relaxed from debility, the undiminished contractility of the rest, combined with the atmospheric pressure upon the whole, will cause the blood to flow more freely into the expanded parts? If these parts are in a state of excitement, will not the result be inflammation or congestion, as the tissue invaded is active or passive? Suppose these tissues to be the fibrous, the muscular, the serous, and the splanchnico-nervous, as in the diaphragm; how long can it be after any one is affected, before all the rest are involved?

Suppose the mucous fibers, or the muscular, or the serous, or the lacteal, or the nervous of the intestines, are first affected by the action of a stimulant, a narcotic or a sedative, how long before the same influence is impressed on all the others? and, as all are concealed from our observation, who can tell which is first affected, or the most impressed at any time? And, if we could know all about these matters, of what use were that knowledge, since the medication we must use, can not be confined to either tissue, but will follow the course of the derangements, in spite of all our efforts to prevent it from so doing? We can, indeed, discover the character of the derangement, which gives us the indications of the proper remedies, and, where the appliances are to be external, the proper modes of application; and this is all we can do, or need to do, to give our patient the relief he wants.

But, suppose that the whole surface is closed by cold, and the construction of its capillaries prevents the blood from flowing thither, must it not be carried by other vessels to the warm and distended tissues or surfaces within? And who shall say whether these inner surfaces shall be mucous, serous, muscular, glandular, etc., or whether several may not be involved in succession, or at the same time? And, whether it be the one or the other, by what other method can relief be gained, than by the simple one of relaxing and stimulating the external surface, and thus inviting the excess of blood and action from them all? Is it not, then, perfect folly to parcel out disease according to the tissues it involves, and to prescribe a special treatment for each locality, or part of every tissue? So I think; and therefore always count disease a unit, and treat it on the general principle of removing all obstructions from every part of the body, to the full and free action of the nervous power, to the circulation of the blood, and to the processes of nutrition and of depuration. This done, *every* tissue is relieved of whatever suffering it endured. Under the influence of these views, which are drawn from nature, and are, therefore, perfectly correct, it was my intention to avoid nearly all the nosology and special treatment contained in my first edition; but the opinion of many intelligent and experienced practitioners, who have followed those directions most assiduously, with the greatest satisfaction to themselves and profit to their patients, that it contains too much useful information to be thus rejected, has induced me to spare, at least, an abridgment of its best portions. I therefore, proceed to present, according to the plan of Dr. Gallup, the most interesting portion of his symptoms, accompanied with directions for the proper practice.

26.—Order I.

Diathesis fervida fibrosa. (*Habitus phlogisticus—Sthenia.*) Strong excitement in the fibrous tissues; character, high fever.

GENUS 1. SYNOCHA.—*Enecia cauma* of Good: High *inflammatory* fever—

(continued) (synocha is the strongest grade of general fever, synochus, a weaker grade).

Definition of ordinary character—(symptoms). “General high excitement, preceded by a sensation of lassitude and chilliness; pulse full, hard, and frequent; pain intense; skin dry and hot; tongue coated with a white fur; urine scanty and high colored. Location of the action principally in the fibrous or fibro-muscular membranes; liable to produce effusions, adhesions or suppurations, by associating other neighboring (contiguous or interlacing) tissues in the series of febrile action.”

Remarks.—“The vascular tissues act *excessively*, in all cases of excitation. The fibrous tissues are about as freely penetrated by vessels as any other tissue; but not so much with red blood, yet they become considerably injected when inflamed. All inflammations in this tissue, whether from mechanical injuries or local determinations, are severely painful. The dense and unyielding fabric is more easily obstructed, and, when inflamed, more sensitive, and with greater difficulty lubricated and soothed. The sympathetic influences radiating from such inflamed parts, by their reflex actions on the general system, produce a free and high state of *reaction or fever*,” the design of which is to remove the obstructions and restore the physiological equilibrium.

Treatment.—From the above definition and remarks, it is evident that this form of disease, indicated by inflammatory fever, consists in nervous action, excited by obstructions to the depurating apparatus, which soon destroys the balance between the fluids and the solids of the system; and in a consequent accumulation of excrementitious, irritating materials. These provoke high excitement, that generates a great amount of heat which evaporates the fluids, contracts the surface and prevents perspiration and other depurations.

The indications are—

1. To relax the system and restore the balance of fluids.
2. To stimulate the obstructed, oppressed, or diseased organs, to action and depuration.
3. To restore equilibrium of action to the general system, and give the diseased organs a healthy tone.

To fulfill the first indication, bathe or sponge the heated surface with water just cool enough to be agreeable to the patient, and repeat it until the temperature is permanently reduced; at the same time give freely of warm bland teas of the aromatic and antispasmodic kind, as sage, balm, catnip, spearmint, peppermint, etc., both to the stomach and by enema, until the patient becomes comfortable. If the head is hot, cool it; if the feet are cold, put them into hot water, or put a canister, jug or bottle of hot water to them. If still the fever continues, and the patient speedily ejects the teas administered, give, in the same way, at short intervals, small doses of weak lobelia tea, until the equilibrium is restored, or at least the patient becomes easy.

To fulfill the second indication, proceed with a regular emetic, followed by an enema, and, if the fever has nearly subsided, a vapor-bath; if not, continue the treatment with lobelia pills and occasional enemas, and the frequent bathings, until the system becomes comfortably cool, when the vapor-bath may be applied, until the perspiration is free.

The vapor-bath may be applied at once, if a shower-bath be over it, or a basin of cool water be taken into it, to cool the surface as often as the heat becomes disagreeable; and provided also that the vapor be let on very gradually. If possible, the feet should always be immersed in hot water during the action of the bath; and, in case there is much difficulty in relaxing the

system or producing emesis by the vapor of water alone, the medicines above named should be put into the current of the vapor or dropped into the boiler after or immediately before the patient gets into the bath. These will act upon the lungs and surface just as they do upon the alvine canal.

While the pulse is as full and as strong as natural, cayenne and astringents are not much needed in this form of disease. The quantity contained in the composition powders, is quite sufficient, and even these would be better if you substituted pleurisy root or catnip for the cloves and hemlock. The depurative treatment must be continued, by the steady and regular administration of relaxing and stimulating remedies termed *alteratives*, of a more permanent character than those mentioned above under the name of anti-spasmodics.

A compound of lobelia extract, or of bruised seed, and butternut, or boneset extract, of bitter or blackroot, and a little nervine, made into pills with slippery-elm or gum arabic, and given at intervals of one or two hours, will be excellent for this purpose. If the stomach refuses to settle, and the fever still continues, though the perspiration can be easily excited, a medicine more relaxing is wanted, enemas of lobelia, slippery-elm and ginger, or asarum, and spearmint tea to the stomach.

If there should be any griping, tenesmus, or excessive vomiting, *aromatics*, lobelia teas, enemas and the vapor-bath are the proper remedies.

Food.—During this stage of the curative process, the patient should have a moderate portion of food, of an easily digestible character, such as corn gruel, rice water, chicken or lamb soup; thin starch, seasoned with sugar and salt; and, if he desires it, a little toasted bread, and butter *if very sweet*; a little chicken or lamb, or, what is better, if it can be gotten, wild fowls, venison, rabbits, squirrels, etc. He should eat a moderate quantity and *masticate* it thoroughly, sick or well.

Drink.—He may drink water acidulated with the juice of sour fruits, as limes, lemons, apples, plums, peaches, or of cranberries, raspberries and strawberries. Two or three teaspoonsful of good vinegar, and as much sugar, in a pint of cool water, makes a very pleasant beverage for a fever patient. It is good for him, and, if not cold, he may drink it freely and as often as he pleases.

Should not these means suffice to break the power of disease and quiet the fever, the course must be repeated.

To fulfill the third indication, the medicines should be of the stimulating and tonic character; bitters, astringents, etc., sufficient to keep up a proper depuration, should be used, with nourishing food and regular, moderate exercise in a pure atmosphere, proper position and habits of body, a cheerful countenance, etc. The compound called plain bitters, are very good in this case. They may consist of two or more of the following articles: balmony, poplar, goldenseal, ptelea, boneset, columbo, motherwort, dogwood bark, wild cherry tree bark, Jesuit bark, barberry, etc., with a little bayberry or other astringent.

Air.—Fever patients should have plenty of fresh air, and their linen (or cotton), both of the body and the bed, should be often changed.

GENUS 2. EMPRESMA CETHALITIS PHRENZY.—Inflammation of the membranes, or membranes of the brain—the dura mater, pia mater, and arachnoid membrane.

Character or symptoms.—“ Commencing like Genus 1, also with pain in the head, redness in the face, sometimes with the adnata (inner mem-

brane) of the eyes, intolerance of light and sound, watchfulness, delirium." The whole surface is generally hot at first, but the heat becomes concentrated more upon the head, and the lower extremities become cool. The head is also generally thrown back; the eyes roll up and at last become glassy.

Causes.—The most common are intense and protracted mental emotions, as study, grief, fear, etc.

Indications.—1. To invite the blood downward and outward, into all the other capillaries than those of the brain, that is, to equalize the circulation.

2. To collapse the arterial capillaries and open the venous and lymphatic radicles of the parts affected.

3. To secure the permanent equilibrium of action.

Let it be remembered that *fever* is obstructed vital action, that is, the accumulation of vital action consequent upon obstructions to secretion and absorption; and that these obstructions may consist in a filling up of the absorbent vessels, or a contraction of their mouths by cold or spasm; or in mechanical compression or injury. In contraction by cold or spasm, the capillaries of the arteries and the secerments of the surface also suffer.

Some of the arteries are continued in the veins, and others are distributed on the surfaces or in the parenchyma. When this obstruction and accumulation are confined to a small region or a single organ, the reaction is termed inflammation. When the reaction extends over a large space or organ, it is called fever; thus we have inflammation of the eye, the ear, the mouth, the tongue, etc., and a fever of the brain, the lungs, the pleura, etc.

Inflammation, being the same as local fever, or a high action of the vital power, excited by obstructions to a free circulation in an organ, it may commence with either loss of function of the absorbents, or undue increase of function in the arterial capillaries. Mechanical injuries to the organs are of the first character, strong mental excitements as fear, grief, etc., are of the latter. But, let it commence which way it may, undue arterial excitement and diminished absorption are the sure results.

The causes of these conditions may be any thing that is capable of exciting vital action or of obstructing the circulation.

Treatment.—In general, as for the preceding case; taking particular care to cool the head with water or vinegar, laid on with a cloth; to stimulate the bowels with enemas, and to keep the lower extremities warm. Emetics should be followed by broken doses and enemas of lobelia, bitterroot, boneset or other laxative bitters, until the circulation is equalized, and the inflammation subsides. Strong, stimulating applications to the abdomen and lower extremities, in the form of poultices of bread and milk or corn meal, or any emollient substance, sprinkled over with cayenne or mustard enough to make it so strong as to produce redness, but not blistering—will be of essential service in this case. After the disease seems to be subdued, the same means that tended best to keep it down in its later stages, should be partially kept up for a time to prevent relapse.

2. Cleanse thoroughly the head, of all dirt and dandruff, by washing it well with vinegar, and combing it out with a metallic comb, then wetting it with cold water or vinegar as often as it becomes hot. Keep the bowels free with enemas and blackroot.

Repeat the various processes detailed above, until the symptoms abate, when proper food and exercise will do the balance.

GENUS 3. SCLEROTITIS—*Ophthalmia taraxis acuta.*—Fibrous ophthalmia.

Character.—Inflammation of the dense coats of the eye; pain in the inte-

rior coats of the eyes; severe burning; headache, intolerance of light, flow of acrid tears.

Causes.—Irritating substances in the eye, cold, mercury, scrofulous and other humors.

The indications are,

1. To equalize and maintain the circulation.
2. To cleanse the eyes of morbid humors.
3. To astringe and tone the vessels.

Treatment.—1. Treat as for Genus 2.

2. After a free use of the vapor-bath, and courses and alterants, if the general health be bad, poultice the eyes with bread and milk, pond lily and slippery-elm, mallows, tilia bark, or almost any innocent yet emollient substance, until they are well cleansed; then,

3. Poultice at night with some astringent, as alum curd (made by putting a solution of alum into sweet milk), oak bark, hemlock bark, etc., and wash them in the day, with a decoction of these or some other astringents, as willow bark, alumroot (*geranium maculatum*), bloodroot, etc.; or, if the light give pain, wear the poultices in the day. Refrain from study, and live on a spare, wholesome vegetable diet. Take physical exercise. Persevere.

GENUS 4. TONSILITIS, QUINSEY.

Character.—Tumefaction (swelling) of the tonsils, heat, pain, difficulty of swallowing; liable to suppuration.

Causes.—Cold acting on a predisposition to glandular affections.

The indications are,

1. To equalize the circulation and promote the general secretions and evacuations. This should be answered by a full course of medicine, followed with an alternative treatment of laxative bitters and diffusive simulants. Enemas and a vapor-bath occasionally.

2. To disperse the tumor. This will be done in part by the course already prescribed; to this must be added poultices of pond lily, slippery-elm, tilia, mallows—any innocent lubricating substance, with lobelia to the neck. Continue the treatment as occasion requires. If it suppurates, gargle the throat with antiseptics, as bayberry, number six, diluted vinegar, etc.

GENUS 5. PAROTITIS. MUMPS.

Character.—“Pain and tumefaction of the parotid glands, and adjacent parts; liable to a metastasis (translation, change), to the testes in males, and the mammae in females; in either sex to the membranes of the brain.” Contagious.

Causes unknown; favored by cold and moisture. The indications are nearly the same as in the above case, and the treatment should be first general, as there directed; then particular to the part affected. I once gave a full emetic to a child whose neck was so swollen when I began that she could not turn her head either way. She vomited finely, and the next morning the swelling was nearly all gone, and she was soon well. In difficult cases, give the vapor-bath often, and poultice the swelled parts with emollients, lobelia and a little camphor, and give lobelia in nauseating doses in the form of tincture or decoction dropped on sugar. Keep the bowels free and the feet and surface warm.

GENUS 6. OTITIS.—Inflammation of the internal ear. Earache.

Character or symptoms.—“Pain in the internal ear, acute; sometimes delirium or coma, liable to suppuration, often followed by caries.”

Causes.—Cold, wax, insects, etc.

Indications.—1. To equalize the circulation, nervous action and sensibility,
2. To remove all morbid and irritating matter from the ear and from the
system.

3. To restore the general health and vigor of the organs.

Treatment.—1. A regular course, syringing the ear, first, with soap suds,
then with third preparation. To remove insects, fill the ear with sweet oil.

2. Proper clothing, diet and exercise, will complete the cure.

GENUS 7. ODONTITIS.—*Odontia dolorosa*, inflammation of the membranes
of the teeth. *Toothache from cold.*

Character.—Inflammation of the investing membranes of the teeth and
jaws; pain acute; tumefaction.

Causes.—Cold, mercury and other poisons.

Indications.—To equalize the circulation, remove obstructions and restore
a healthy action to the whole system. What is commonly called toothache
(odontalgia), is an affection of the nerves of the tooth and jaw, which is
ranged by Dr. Gallup under the head of diseases of the nervous tissue. When
it proceeds from cold, it is to be treated just as the above. In addition to the
treatment referred to above, I need hardly say that the application of some-
thing warm to the face will be serviceable. See Neurology.

GENUS 8. LINGUITIS.—*Dysphagia Linguosa*, inflammation of the tongue.

Character.—Pain, tumefaction, deep redness of the tongue; mouth and
fauces compressed; tongue thrust out; deglutition impeded, and danger of
suffocation.

Causes.—Cold, poisons, mechanical injuries, etc.

Indications.—1. To equalize the circulation.

2. To lubricate the tongue, and preserve it from the action of the atmo-
sphere.

3. To preserve the balance of action.

Treatment.—Enemas, and the vapor-bath with the feet in hot water, and
lubricating and soothing drinks, will generally answer the purpose. If these
fail, give lobelia in broken doses, and if the stomach is foul, give a full course.
If there is any tendency to ulceration or gangrene, wash the tongue and
mouth often with some astringent decoction, and a little tincture of myrrh
and cayenne, and wear a plaster of hemlock gum, sprinkled with cayenne on
the neck. Continue this treatment, often repeating the bath, until relief is
obtained.

GENUS 9. PHARYNGITIS.—*Cynanche pharyngia*, inflammation of the
pharynx.

Character.—Tumefaction internal; deglutition prevented; distress, and
fever severe.

Causes.—As above. Stocks and tight cravats.

Indications and treatment.—This form of disease is the same as the pre-
ceeding; its location is a little further down. Treatment the same as for
Genus 8.

GENUS 10. LARYNGITIS.—Inflammation of the larynx.

Character.—Pain and tumefaction of the circumjacent textures of the
larynx; cough; liable to prove suddenly fatal from the tumefaction pro-
ducing suffocation.

Causes, indications and treatment the same as for Genus 9. The disease

being the same only seated a little lower down. But why situated a little lower down? Answer. On account of hereditary or accidental predisposition.

Treatment.—As above.

GENUS 11. TRACHEITIS.—*Bronchitis, Croup, Hives, Rattles.*

Character.—“Inflammation of the fibrous and mucous tissues of the trachea; inspiration attended with a sonorous, and shrill sound; fibrinous exudation often extending to the bronchia. It consists in a sudden thickening of the mucus of the trachea and bronchia.”

Remark.—Friend Gallup is here compelled to contemplate, as one form of disease, the affection of the mucous with the fibrous tissue. Nor is it always either possible or proper to separate them, the treatment if not the symptoms being often necessarily the same.

Causes.—Sudden cold, from talking long in a warm room, and then in the open air.

Indications.—1. To loosen the spasm.

2. To promote a fresh secretion of mucus which shall disengage and attenuate the old tough and viscid phlegm and throw it out.

3. To restore and maintain the equilibrium of action.

Treatment.—In acute cases, broken doses of lobelia and cayenne, until the phlegm is raised and the tubes are cleared. Strong infusions are the best, but the third preparation will do. In chronic cases, continue until the patient vomits. The lobelia answers the first indication and the cayenne helps it to answer the second. For the third the vapor-bath with stimulating frictions and proper clothing. Let these processes be repeated until the cure is complete. I have known it applied in many cases but never knew it to fail, while I have seen others bled and dosed with antimony and calomel until they died, with their faces swollen and turned purple, the skin on the head and neck black, and the mouth foaming as if they had taken arsenic or the hydrophobia virus—killed no doubt, outright.

GENUS 12. PNEUMONITIS FIBROSA, PLEURITIS.—*Pleurisy.*

Character.—Inflammation of the fibrous tissue of the lungs and exterior coats, and associating the serous; pain acute, impeding respiration; dry cough; pulse hard and tense. See remarks after Genus 11.

Causes.—Cold from sudden changes of the weather or of circumstances. Lacing the body the most fruitful cause.

Indications.—Supposing this name, pleurisy, to be strictly limited to inflammation of the fibrous tissues of the costal or the pulmonary pleura or the inflammation of any portion of the lungs, the indications would be,

1. To relax the whole system.

2. To remove all obstructions to vital action, and,

3. To restore and maintain the equilibrium.

Treatment.—In many cases, if taken hold of immediately, nothing more will be necessary than some aromatic tea, as catnip, balm, sage, etc., an enema or two of the same, and a vapor-bath. But, in very severe attacks, give lobelia freely, with the aromatic and diffusive stimulants above named, followed with the vapor-bath, and this with broken doses of lobelia, and the alterative bitters, as boneset leaves and flowers, golden seal, etc. Warm poultices, with a little cayenne on their surface, may be applied externally over the seat of the pain. If enemas do not clear the bowels, a gentle cathartic should be given; then again the vapor-bath to restore the equilibrium of action, or determination to the surface. These processes should be repeated as the symptoms require, until the patient recovers.

I should treat, nearly in the same manner, various other affections of the lungs, and other organs of the chest (which will hereafter be named), such as pneumonia mucosa, serosa, cellulosa, and even tuberculosa and complexa in their early stages. In fact, no physician, however discerning, has been able to distinguish, in all cases, by the symptoms, the different organs or tissues affected, as above noted. But, if doctors were to decide that attacks on the different tissues required different treatment; what would become of that very common and equally dangerous form called *complexa*, pneumonia typhoides, or epidemic pneumonia, which "involves all the tissue?" The proper treatment for this, would, of course, cure all the rest.

Let the practitioner rest assured that inflammation anywhere in the chest, is properly treated only by relaxing the general system and diverting the action of the available vital force to the surface and lower extremities, and sustaining it there.

GENUS 13. CARDITIS.—Inflammation of the heart.

Character.—"Oppressive pain referred to the region of the heart, increased by a recumbent posture; pulse frequent, and irregular; forcible palpitations; oftentimes a cough." Though I can not say that the above symptoms from the most distinguished popular authors, do not occur in cases of real pericarditis; nor that they do not often occur where there is no affection of that organ; yet I can say that the proper treatment of a case manifesting such symptoms, is detailed under the Genus pleuritis. While these forms of disease are acute, they are easily managed, but when they become chronic, especially if by the blood-letting and poisoning treatment, they often become wholly incurable.

Causes.—Cold, compression of the body, inequality of dress, metastasis of rheumatism, gout, etc.

Treatment.—The plan is, to give a regular course of medicine, perhaps two or three, until the system is cleansed, and then be careful to produce and sustain a proper action of the bowels, surface, and lower extremities.

GENUS 14. DIAPHRAGMITIS.—Inflammation of the diaphragm.

Character.—"Pain, with a sensation of constriction in the precordial region; short, oppressed respiration; often hiccup; slight alienation of mind; distortion of the muscles of the face, as in grinning."

Causes.—Same as for Genus 13. Indications and treatment the same. Why, says an objector, do you treat two different diseases in exactly the same way? No, surely, but these are not different diseases. They are both cases of obstructed circulation in the same tissue and in contiguous organs, both which are beyond the reach of special application. How then can I treat them but upon general principles, and how can these similar organs affected in the same way require different treatment?

GENUS 15. GASTRITIS.—Inflammation of the stomach.

Character.—"Oppressive pain at the epigastric region; (that about the end of the short ribs of the left side), aggravated by every thing swallowed, and by pressure; vomiting, with a sensation of burning heat; pulse small, hard and frequent."

This is one of the most troublesome of all forms of disease, and one at present very common, and difficult to cure. Broussais, the leader of the French school, traces nearly all forms of disease to inflammation of the stomach and bowels.

Causes.—Acrid, acid, or any other irritating food, cold, poisons taken for medicines.

- Indications.*—1. To cleanse the stomach.
 2. To invite the action from it to the surface and lower extremities.
 3. Remove all causes.

Treatment.—Give a gentle emetic, and follow it with an enema and the vapor-bath; rub the lower extremities, and the body below the waist, with stimulating liniment. Repeat the vapor-bath and the rubbing, *every day*, until the inflammation is subdued. In the mean time let the diet be of the most simple and unirritating kind, such as starch, slippery-elm, rice, meal, barley, arrowroot, gum (arabic) water, good bread, etc. Wild game, or chickens, if any flesh at all. It should be taken in moderate quantities, and at regular hours; and not more than three times in twenty-four hours. The stomach should have rest. It can not work all the time without serious injury. The only way to give any one organ refreshing and salutary rest, is to make all the others do their duty. Great care should be taken also, that every part of the body be free from all compression and unnatural attitudes, that the chest and abdomen be fully expanded in inspiration; that the dress be warm on the extremities and light on the body, and that the exercise be steady, moderate, and in the open air. If all the rest of the work be well done and constantly done, there will be little need of emetics; and when they are given, the aromatic herbs will generally be sufficiently stimulating to be used with lobelia, and nervines. In case of acidity, a meal may be now and then omitted, and, in its stead a little blackroot, butternut or other laxative, with a little potash or soda may be given to advantage. A stimulating plaster (gum and cayenne) may be worn on the breast and on the center of the back, to invite the action of the stomach. This is the plan: You may make choice of the individual *articles* of food or medicine, if you will strictly adhere to the above characters, powers and modes of application. If one course of it does not relieve, you are to repeat it until it does. If any tonics be given, they should be of a mild, unirritating and diffusive character; such as balmy, poplar bark, skullcap, boneset, sage, etc.

GENUS 16. ENTERITIS.—Inflammation of the fibro-muscular coat of the intestines.

Character.—Acute pain in the umbilical region, increased on pressure, and by bending forward; tension of the abdomen; frequent, small, hard pulse; vomiting; coldness of the extremities.

Causes.—Cold, irritating food, high excitements, spasms, injuries, hernia, etc., medical poisons, particularly mercury.

Indications.—Same as for gastritis. The disease being the same, only lower down.

Treatment.—Relax the whole man by the use of the warm bath, poultices to the abdomen, stimulants to the feet, and broken doses of lobelia, aromatic and antispasmodic teas; and emetics if necessary, that is, if the pain refuses to yield to milder means; and continue the external applications until the inflammation yields. The same care must be observed here, as in gastritis about diet, clothing and exercise, and avoiding the causes or the disease. To equalize the circulation and nervous action over the general system, and to relax and to cleanse the parts of irritating, morbid matter, is the true (*methodus medendi*) mode of cure in all cases of inflammation. Enemas of a mild, soothing character, should be used very liberally in both these forms of disease. I can not leave this article without saying what perhaps I ought to have said before, that, if mercury is not one of the *principal* exciting causes of inflammation of the stomach and bowels, and, indeed almost every

other internal organ, it is surely one of the most *mischiefous*.—Criticisms, page 33 to 48.

GENUS 17. HEPATITIS.—Inflammation of the liver. Not so common as is generally supposed.

Character.—Pain acute in the right hypochondrium [side about the stomach], slight tension and tenderness on pressure, difficulty of lying on the left side; often pain above the right shoulder; pulse, heat and thirst indicate synoqua [high fever].

Causes.—Mercury a fruitful cause. Cold, obstructions, poisons in general, grief, bad food, a stooping habit, compression of the chest, etc.

Indications.—To relax the system, equalize the circulation, remove morbid matter, raise the action of the surface and the lower extremities, and maintain this condition until the liver recovers its healthy or normal action.

Treatment.—A course, followed by relaxing and stimulating enemas, lobelia pills, blackroot, etc., with some aromatic and diffusive stimulant as peppermint, pennyroyal, spearmint, etc., to determine to the surface and prevent tenesmus. I have found these articles, with the bath and other external applications, to be sufficient in nearly all the cases I have treated; but, if they should not answer for others, something more active, as clear blackroot; or butternut or boneset extract may be used. Blackroot, bitterroot, nervine, lobelia seed, boneset and butternut, act very kindly upon the liver. Remember the proper habits of body, in this as in all other forms of disease; and the food, exercise and clothing as above.

In relation to liver complaint, I can not forbear to remark that it is more frequently produced by compression of the chest, and by mercury, than by all other causes put together; but I must also add, that, in very many cases, of what is called liver complaint, the liver is no more diseased than the neighboring organs, and will, with them, recover its healthy condition, by the application of a general treatment. Prof. Hill informs me that, in a majority of the cases which he has examined, in which the patient was said to have died of this disease, he has found the liver as healthy as any other organ.

There are other affections of the liver, which we do not consider here, because they are differently disposed of in the nosology we take for our guide. They will be found in their proper place, and referred to in the index.

GENUS 18. SPLENITIS.—Inflammation of the spleen.

Character.—Pain in the left hypochondrium, steady, increased by pressure.

Causes.—The same that produces inflammation on other internal organs, as the liver, diaphragm, etc., namely: cold, compression of the chest, atmospheric changes, irregular diet, exercise and clothing, etc.

Treatment.—This too, will consist in the invitation of the blood to the surface and lower extremities, and the removal of all the causes enumerated as producing congestion and inflammation. Relax the system with lobelia, the vapor-bath and the best sudorifics (see this class in the *materia medica*), cleanse the alvine canal, with emetics, enemas, and, if necessary, a cathartic, taking care always when you administer medicine of this latter character, to unite with it some diffusible and antispasmodic stimulant, as cayenne and peppermint, to determine to the surface and prevent griping, and to use the bath after it has operated sufficiently, to "regulate all the secretions." It will be also well to apply something warm to the side in both this and the preceding form or locality of disease, during the intervals between the baths.

If the acute inflammation of the spleen be not relieved, the disease becomes chronic, the organ gives way and swells, sometimes to an enormous extent.

The treatment needs not be varied much in character, but it must be perseveringly applied until the end is accomplished. I have cured several very bad cases that had baffled the skill of distinguished physicians.

Many have requested me to be very minute and particular in detailing all the symptoms of and prescriptions for, the different names of disease, but I think this would be only to hamper the judicious practitioner and perplex the ignorant, as neither might ever find the *exact* train of symptoms and indications I might present, though they all *may* have appeared in different cases. I remark again that the same train of symptoms can not occur under the Botanic, that do under the mineral practice; and, of course it would be both idle and wrong to detail the latter with their proper treatment, further than to say that, if you are called to a case of poisoning, whether by accident, or medical practice, you should cleanse the whole system of all morbid matter, by a regular course of medicine, as speedily as you can raise, in the system, action enough to effect it. If the poison be in the stomach, vomit him; if in the bowels, give enemas and cathartics; if on the surface, rub him with alkalis or acids and lobelia, and use the vapor-bath. In all cases, sustain the powers of life by stimulants, exercise and good food.

GENUS 19. NEPHRITIS.—Inflammation of the kidneys.

Character.—Pain in the loins and along the course of the ureters; numbness of the thigh; micturition or difficulty of voiding urine.

Causes.—Cold, mercury, cantharides, spirits turpentine, or any acid substance, suppressed evacuations, contusion, strains, etc.

Treatment.—The indications and treatment are the same as for inflammation of any other internal organ, as the liver, spleen, etc., except that the applications are to be made, in all cases, as directly as possible to the part affected. The system should be relaxed, warmed, cleansed, and the loins and lower extremities well clothed; and then all possible care should be taken to avoid the causes, and to regulate the general circulation and nervous action. A plaster of hemlock gum with a little cayenne sprinkled over its surface, worn directly across the spine and short ribs, will generally be found useful. Mucilaginous drinks, as slippery-elm, barley-water, gum arabic, flax seed, marshmallows, comfrey, tilia, etc., may be freely used as drinks. Reject acrid substances, and mostly animal food, except perhaps good milk and buttermilk.

GENUS 20. CYSTITIS.—Inflammation of the bladder.

Character.—Pain, soreness and tumefaction in the hypogastrium; micturition or ischuria; fruitless desire to urinate. Sometimes vomiting and delirium.

Treatment.—In addition to the treatment mentioned above, all which will be found useful here, it will often be found profitable to apply warm fomentations, bottles of hot water, etc., to the region of the affection. In this, the two preceding and the two succeeding forms of disease, great care should be taken to discharge the urine whenever nature calls.

GENUS 21. PROSTATITIS.—Inflammation of the prostate gland.

Character.—Pain in the neck of the bladder; suppression of urine.

GENUS 22. URETHRITIS.—Inflammation of the urethra.

Character or symptoms.—Heat, pain and thickening of the coats of the urethra, without discharges; urination frequent, difficult, and painful or suppressed.

Causes.—Cold, acid and acid food, poisonous and irritating medicines; used as diuretics; such as cantharides, spirit of turpentine, etc. This and the preceding form of disease, are often induced by the indulgence of libidinous desires.

Indications and treatment same as for the former, particularly the removal of all the causes. It is proper to apply, after the bath, fomentations and poultices to the part affected. The poultices should be more of the relaxing kind, as lobelia, slippery-elm, etc. When mild means will not do, give a thorough course.

GENUS 23. ORCHITIS.—Inflammation of the testes.

Character.—Tenderness, pain and tumefaction of the testes.

Causes.—Cold, bruises, poisons, etc.

Treatment.—The vapor-bath, fomentations with bitter herbs, and poultices of these, lobelia and slippery-elm, or any other mucilaginous substances, suspended in a sack. A full course of medicine followed by broken doses of lobelia, until the swelling is subdued. Rest, light and chiefly vegetable diet as for all cases of inflammation. See "food."

GENUS 24. METRITIS, HYSTERITIS.—Inflammation of the uterus.

Character or symptoms.—Pain, tumefaction and tenderness in the hypogastrium (lower abdomen), increased sensibility of the os uteri; frequent, hard pulse, ; pain in the loins.

Causes.—Cold, mechanical injuries during parturition ; poisonous drugs, ergot, etc.

Indications.—To invite the action to the surface and lower extremities, and remove all irritating matter from the system.

Treatment.—The vapor-bath, diffusive stimulant teas, as sage, balm, catnip, etc., enemas of the same to the vagina, with lobelia ; stimulating plasters and poultices to the abdomen ; and, if these fail, a full course, and continue with broken doses of lobelia. Keep the bowels clear, the feet warm, and the surface active by friction. It is sometimes necessary to introduce poultices of lobelia, slippery-elm, etc., into the vagina, and to sustain them by a T bandage, removing them every six hours and cleansing the part with a syringe and soap suds, then using an astringent enema, say of witch hazle, raspberry leaves, or alumroot (geranium maculatum). Remove all the causes.

GENUS 25. MASTITIS.—Inflammation of the breast.

Symptoms.—Pain, swelling, hardness, tenderness, and, at length, redness in the breast ; liability to suppurate.

Causes.—Cold, curdled milk, from not removing it in season ; injuries.

Treatment.—Same as for inflammation in general, with poultices of lobelia, slippery-elm and camphor to the breast, drawing off the milk, a thorough course, and the constant influence of lobelia, to the full extent that the case requires. Lobelia and the bath are the main dependence. We have never yet allowed one to suppurate. The treatment must be thorough and unremitting, until the disease is entirely subdued. When nearly subdued, a plaster of hog's lard spread over with powdered camphor, will finish the cure.

GENUS 26. PERIOSTITIS.—Inflammation of the periosteum.

Symptoms.—Severe and incessant pain in the deep seated parts, surrounding the bones ; liable to effusion and suppuration.

Causes, indications and treatment.—The same as for inflammation of other tissues, but the circulation in this membrane being slow, the process of cure

will be more tedious. Patience, and steady perseverance in a course of relaxation, will effect the reduction of the inflammation, in time.

GENUS 27. PABONCHIA.—Felon, whitlow.

Character or symptoms.—Inflammation of the periosteum of the last finger joint : hot, red, swollen and very painful.

Treatment.—Soak it in weak ley, apply spirit of turpentine. We have found a poultice of slippery-elm to subdue this form of disease in a number of severe cases. Should it fail, we should give a vapor-bath, and even a full course of medicine—the most effectual means to break the force of the inflammation, and should follow it up with permanent antispasmodics, as in the preceding case. If it should suppurate, open it with a lancet or other sharp instrument, then poultice.

GENUS 28. PHLOGOSIS.—Phyma, furunculus, boil.

Character.—Pain, swelling, heat, redness in the skin ; liable to suppurate, with a central core.

Treatment.—Poulticed with honey and wheat flour, in its early stage, it is generally subdued ; but, if far advanced, it will suppurate, still it should be poulticed, and, when nearly ripe, roasted sorrel leaves or the sorrel salve (extract of oxalis acetocella), may be applied to aid in breaking it. Courses of medicine and the laxative bitters, burdock, sarsaparilla, spikenard, comfrey, etc., are good for this purpose, to purify the blood.

In the treatment of these forms of disease, it is necessary to have some article more steadily relaxing than lobelia, to be used with it as an alterative or "regulator of the secretions." For this purpose, the blue cohosh, skull-cap, asarum, bitterroot, and other similar articles, are excellent. They should be given in water infusions or in pills of the extracts. The cohosh is an excellent article to remove pain anywhere. We once relieved a case of severe and long continued periostitis, by simply applying the fresh leaves of the beach tree for a few days, removing them as often as they became dry. Almost any innocent and succulent leaf will do as well. Bruised purslane, burdock, mullein, etc., will do better.

SECOND SERIES,

Affecting the arthroical (joint) fibrous membranes and the fascia (investing coat) of the muscles.

GENUS 29. RHEUMATISMUS.—Rheumatism.

Character.—Acute pain in the fibro-serous membranes of the large articulations, followed by a smooth, shining tumefaction, not liable to suppurate ; immobility of the joints and muscles, without severe pain, changing place. Its essence consists in a deficiency of secretion of the joints. "When the fibrous tissues have become exalted in sensibility, they retain it with much persistency. The disease is prone to linger, and, although, it relents about the fourteenth day of the attack, it is easily recalled by slight exciting causes, especially cold. It is liable to become chronic, and to injure many organs. Soreness, stiffness and contraction of the muscles, thickening of the fibrous tissues, hydroptic effusions, etc., succeed." "The swellings about the joints, are from the sero-fibrous membranes, which yield a fibro-serous fluid, the thinner parts of which are absorbed while the thicker condense, leaving a thickening of the parts."—(Gallup). This shows the propriety and necessity of attenuating the fluids and keeping them in motion. "Gout and rheumatism

occupy the same kind of tissues; both have their origin in excess of regimen, habits of inactivity, and cold, damp and variable climates," or subjections to these circumstances in any climate. "A lithic diathesis accumulates upon a rheumatic propensity, the tissues assume an abnormal (unnatural) susceptibility, rendering the subject liable to disease, and, when excited, to partake of the character of ataxia" (changeableness), and therefore a "modified rheumatism." This state becomes eventually so fixed in the system "as to be transmitted to the offspring;" and thus "the sins of the father are visited upon the children," etc.

Rheumatism, "gout and gravel, vegetate in cold, damp, or foggy climates, in subjects who take more nutritious food than their systems require, also more acids than can ordinarily be eliminated, in a temperature that throws this process chiefly on the lungs and kidneys while the skin is nearly inactive. Muscular inactivity also allows of vascular turgidity, and cellular accumulations of adipose (fatty) matter. Uric acid exists in excess, and the vinous acid also, is ready to unite with the lime so abundantly taken in the farinaceæ, etc., as well as the ossific detritus (material). Chemical combinations follow, manifesting the lithic diathesis. These may tardily pass the emunctories, or their slow expulsions give origin to concretions in the kidneys or urinary bladder; or, commingling in the fibrous tissues, produce ossifications of the arteries; or again, when effusions take place in the local concentrations of gout, they become effused with fibrin and form the chalk stones, as the more fluid matter is absorbed."—(Gallup). Here we see again the propriety and necessity of our course, and can but wonder that Professor Gallup, who sees so clearly, that inactivity, inability and overloading, are the causes of all these evils, should still adhere to the destructive means of depletion to cure them! What strange inconsistency, especially as he says, "the only sure and safe method to remove gout, is to take the opposite course from that which produced it."

This much I have copied from Professor Gallup, because he gives the most rational account of the causes and nature of these affections, that I have anywhere seen, and because it indicates and enforces the very treatment that I prescribe.

Indications.—To relax the tissues, attenuate the "fibro-serous fluids" and invite them from their quarters, and to stimulate the whole system to healthy action, that the joints and fascia may be well lubricated.

Treatment.—Lobelia seed, cohosh and bitterroot, in equal proportions given steadily, in broken doses, so as to produce slight nausea and an occasional vomit, together with the vapor-bath and sudorifics, as *asclepias tuberosa*, sage, catnip, eupatorium, etc., applied for a long time, but with moderate heat, emollient and laxative poultices to the parts most affected, warm boneset and cohosh tea as a drink, constitute the general outline of the treatment. I am aware that some will say, I have tried this plan and it only made the case worse. I answer, you did not try this plan, you thought to break the disease as you can in acute, general fever, with a rapid dash of full courses, but you should have remembered that the tissues involved in these affections, are dense and the circulation is difficult, and you should therefore not press but invite it, and be patient as to time, and steady but moderate in action. Then you would have succeeded. You may give a violent course, and repeat it day after day, with fitful indifference in the intervals, and your patients will grow worse; but do as I direct: give them a regular, steady, cool, breakdown course, get and hold them for days and nights together, right in the door of "the alarming symptoms," and you will not miss your mark. I have men-

tioned but few of the remedies that might be used; almost any permanent relaxant may be used in acute forms of the disease. The great point is to use them right.

But, Dr. Gallup says: "Rheumatism half cured, by continuance is called chronic." More correctly speaking, rheumatism which is made by mal-practice is chronic, though it sometimes comes on by slow degrees in what is called a natural way—but disease is all unnatural. The course of treatment is the same as in the acute form; though the accumulations are greater, the vitality is lower, and, of course, the patience and perseverance, must be proportionably increased and prolonged.

GENUS 30. LUMBAGO.—Rheumatism of the loins.

Character.—Pains affecting the loins, extending toward the crura of the diaphragm; immobility of the body.

Indications and treatment same as for the preceding, differing only in the locality of the applications. When rheumatism has been seated in the shoulder, leg, loins, etc., I have completely subdued it by steeping a few pepper pods in vinegar, so as to make it of the consistence of a poultice, and binding it on the part for a night. A plaster of hemlock gum or equal parts of Burgundy pitch, and common pine turpentine sprinkled over with cayenne, will do the same. Warm flannels will *sometimes* be sufficient to remove lumbago; but these should generally follow a thorough course. Avoid all draughts of air, and all exposure to sudden changes from a warm to a cool or damp state.

GENUS 31. RHEUMATISMUS FACIALIS.—Rheumatism of the fascia and muscles.

Character.—Severe pain, soreness and sensibility of a whole limb or some portion of the fascia and muscles; immobility, tenderness with tumefaction, sporadic (here and there) similar to the following, but without effusion and liable to persist. The peculiarity in this instance, is opposed to morbid secretions; in the following, effusion readily takes, G.

This form is easily subdued by general treatment. (See Genus 29.)

GENUS 32. PHLEGMASIA DOLENS.—Milk leg, swelled leg.

Character.—Either sex affected with an acute morbid diathesis attacked with severe pain and soreness in the groin, fascia and muscles of the leg; in a few hours followed by a tense glossy tumefaction extending over the whole limb; not suppurating but continuing several weeks or months; pain mitigated by the swelling, gelatino-albuminous effusion into the cellular tissue; most commonly occurring in puerperal patients; yet in other instances and in both sexes.

Causes.—Cold, poisons, whatever may destroy or derange the vital functions.

Indications.—To reduce the tension of the part by recalling the action and the blood to other parts, and to promote absorption. This is to be done as I have already directed. I never witnessed but one case of any importance that was severe; I took it from a regular whose prescriptions had tended to "diminish the vitality of the system." I reversed the course; relaxed the organs without diminishing the vitality; gave alteratives (relaxing bitters), poulticed the limb with relaxants and emollients, "put it into a sweat," and soon cured it. I do not make a practice here of detailing cases; as it would fill the book too much, and attract attention from the principles I lay down. But some will ask, what shall we do when we have done what you say, and

the case is not cured? I answer, get the best articles, repeat the course according to prescription, and persevere to the end, health or death; always remembering, however, to invite nature not to crowd her, to let her do her own work as fast and as far as she is able; and to give her no more to do than is indispensable. (See food.)

GENUS 33. PODAGRA.—Arthrosia podagra, gout, arthritis.

Character.—Pain, severe in the small joints, commonly the toes and ball of the foot; followed by swelling, not suppurative, but often followed by calcareous concretions; occurring by paroxysms and remissions, and occasionally with metastasis to the organic viscera. The disease may wander about or become fixed or it may first fix itself and then wander, when it is called retrograde or retrocedent gout.

Causes and treatment, indicated in the remarks on Genus 27, of which this and the preceding are only modifications. Stimulating food has been accused as the principal cause of gout. No doubt it has so sharpened the appetite as to make it crave that superabundance of food which has so clogged the wheels of life as to have induced the debility necessary to constitute gout; but nothing is more certain than that diffusive stimulants are the proper cure for the disease. This was the doctrine of Brown; and, had his practice been illustrated by the use of the innocent and life reviving stimulants of our practice, instead of the deadly instruments, brandy, opium and other narcotics, and by the vapor-bath, poultices, etc., the result of his treatment, the fate of his system and the fame of his name would have been widely different from what they have been. Well, says Dr. Infinitessimal, this is rank homœopathy, *similia similibus curantur*. Not so fast. The stimulants do not produce the gout; they do all they can to prevent it; but they give to the system a desire for more food than it can dispose of, and this impedes the action of the organs. They labor until they become tired, debilitated, diseased, as the whole man does, when more exercise is put upon him than he can perform. Hence, neither medicines, food, nor exercise should be taken when not needed, nor can excess in either be allowed for any considerable time, without detriment to the physiological or healthy state.

GENUS 34. HYDRARTHROUS RHEUMATISMUS.—Rheumatic white swelling.

Character.—Chronic inflammation, pain and swelling of the large joints; involving the dense membranes in the local affection; swelling colorless; tender on pressure; slow, imperfect suppuration; thickening of the membranes.

Causes.—Cold and debilitating agents, the location being consequent upon some strain or other injury. In variety *strumatosus*, scrofulous white swelling, the pain is deep seated and circumscribed; inflammation slow, imperfectly suppurating and disorganizing the bone, and integuments; irritative fever—the result of the deposition of scrofulous matter into the dense fibrous tissue.

Indications and treatment of the first variety the same as for Genus 27, with applications of a relaxing nature to the special affection. In the second variety, *strumatosus*, the whole system should be cleansed of all morbid matter, by courses, the medicated bath, enemas, etc., and the parts affected should be treated with washes and poultices of the stimulating and antiseptic kind, such as the drugs of the tincture of myrrh, slippery-elm and charcoal, polygonum, piperita, astringent vegetable washes, etc.

For cases of white swelling and their treatment, see Recorder, vol. iii, pages 198, 205, 324, and vol. iv, 25. Salves of the juice of elder bark and the

arbor vitæ or other resinous evergreen, will be good to heal the sores, after they are well cleansed and the constitution is in good order. The bath should be used every day, and alteratives every three or four hours, and an emetic occasionally.

General Remarks.—The symptoms of disease in all the localities mentioned in this order, are one and the same, viz.: inflammation of the fibrous tissue; and the disease itself is one, the inability of the secretents and absorbents to perform their functions. The only difference consists in its locality. Inflammation is the concentration of the available vital force, the excess of vitality, the *vis medicatrix naturæ*, in company with the blood, on a part, whether by invitation, as when that part is primarily irritated, as in gastritis from poison; or by compulsion, as when the force is driven there, as in the same disease, caused by suppression of perspiration. Of course, the

Indications in all these cases, are the same; to invite the action equally over the system, that is, to equalize the circulation and nervous action, to remove morbid matter, and to restore the healthy function of the particular part inflamed. This latter indication is to be fulfilled by applying relaxants, emollients, and stimulants to the locality of the inflammation, or as near to it as we can get them. The means are, the best antispasmodics, among which are lobelia, neurological operations, the various aromatic and nauseating or bitter herbs, the vapor-bath, cayenne, fomentations, poultices, etc. The toning up of the system is to be effected, by good food, proper exercise and physiological habits of the body. (See the remarks on these subjects in their proper places.) The only thing peculiar in disease of this tissue, is that, being more dense than the mucous, the obstruction is more complete, the circulation more impeded, the inflammation runs higher, the pulse is smaller and more wiry or corded, and consequently the progress of cure is slower, and the cases require more constant vigilance to prevent them from relapse. In other respects, the treatment is to be precisely the same as for inflammation in any other tissue of the body. Disease is one, inability of an organ to perform its duty, "the usurped control" of the chemical and mechanical agents over the vital domain; the symptoms are one, viz.: efforts of the vital power to regain her lost dominion; and the treatment must be one (or it is all quackery), viz.: to remove these intruding agents and their influences and effects, and re-established a full, free and universal equilibrium of the vital action throughout the system; and lastly, this whole work is one, consisting of three parts, viz.: relaxation, stimulation and contraction or astringency. Lose sight of these principles, and you are on a medical ocean without a quadrant, compass or rudder.

The means are antispasmodics, stimulants and tonics, with emollients to grease the wheels of life. Disprove these positions, and we lay by the pen and "throw physic to the dogs." Adhere strictly to them in the use of the best means, and you do all that can be done for the relief of suffering humanity, in its hour of greatest need.

We may be asked, "why then do you cut up disease into so many divisions and give to each a separate treatment?" We reply, we did not make these divisions; they were made by the learned in physic (?), and we follow them out in their efforts to divide what is, in its nature, indivisible, to satisfy the demands of the public, and to give it, in small crumbs, to those practitioners of the art, who have not capacity enough to take in the whole at a single mouthful. For ourself, the preceding propositions cover the whole ground of practice, and direct to the most intimate minutiae, with the most unerring certainty.

No. 27.—Order II.

DIATHERSIS FERVIDA MUCOSA.—High excitement of the mucous membranes. **Mild pyreptic (febrile) habit.** *Synochus.*

General Character.—Although, in some instances, cases occur, of a very considerable intensity of vascular action; yet in the common range of diseases of the mucous tissues, the fever is of a milder grade than in those of Order I., although commonly of the synochoid character. When they are very severe, it is on account of the contiguous tissues being associated with the mucous in the local affection. The disease may be acute or chronic. The grade of febrile intensity corresponds with the commonly received opinion of *synochus*, a grade of intensity below that of *synocha*. However, absolute precision is not expected in these cases, for the affection often involves all the tissues and the fever partakes of all the grades, according to the extent of the offending cause, and the power of the system to remove it.

FIRST SERIES.

GENUS 35. CATAERRHUS COMMUNIS.—Catarrh or coryza.—Common catarrh.

Character.—Irritation or inflammation of the nostrils, fauces, frontal sinuses and trachea, at first, then acid discharges, afterward, mucous; sneezing and coughing. The varieties are the common and epidemic. The common proceed from cold taken during changes from warm and dry weather, to cold and damp, or from and to corresponding conditions in any weather. It may also proceed from acrid or other irritating effluvia inhaled in the air, or it may proceed from poisonous substances received in food or drink.

Indications.—To equalize the circulation, remove the irritating causes from the organs affected, and restore the general tone of the system.

Treatment.—Warm aromatic teas and the vapor-bath—medicated with herbs and a very little cayenne, if convenient, and inhaling the vapor. Thoroughly cleanse the surface and rub it, especially the lower extremities, with stimulating liniment (see this article). When the water is running from the nose, a few applications to the vial of strong volatile salts (ammonia), will stop it. This course is proper only when the discharge is nothing but water. Pus should be permitted to flow until it is all gone. This will soon be the result, the proper attention being paid to the surface.

VAR. 2. EPIDEMICUS, INFLUENZA.—This variety is produced by the general causes, not the special, above mentioned, and is a more obstinate degree, though of the same nature. The attack is sudden, with pain in the forehead, cough and expectoration, sneezing, etc. This requires the same treatment as the first variety, but more thoroughly and perseveringly applied. A common drink of hoarhound tea, a snuff of bayberry, or the volatile salts in the time of the watery discharges, and great attention to the surface, will generally suffice; when this fails, a course or more of medicine, followed by this treatment, is the proper plan. The bowels must be kept regular by enemas, which must be administered for the purpose of aiding in equalizing the circulation, an object never to be forgotten. If used in season and frequently repeated, an enema of a little warm tea, and the vapor-bath are generally sufficient to cure this form of disease.

GENUS 36. CONJUNCTIVITIS.—Ophthalmia taraxis mitis, common sore eyes.

Character.—Irritation, heat, redness of the tunica conjunctivitis (lining membrane of the eyelid and ball), sometimes pain; watery discharge, frequently followed by the extension of minute blood-vessels, in a yellowish tissue over the eyeball, from the inner angle to the iris.

Causes.—Cold, irritating substances, particularly the dust from powdered rocks; insects; stimulating food and drinks, particularly alcoholic and fermented liquors, smoking tobacco or cigars, and, last but not least, in the catalogue of causes that continue it and render it more obstinate, are the lancets and caustics, mercury and other poisons used to cure it.

Indications.—1. To avoid all the above mentioned and other similar causes.

2. To equalize the circulation, and—

3. To cleanse and tone the secernt vessels of the conjunctiva, and, if present, to remove the preternatural blood-vessels with their cellular tissues.

Treatment.—Equalize the circulation, as before directed, and apply emollient washes and poultices to the eyes until they are well cleansed; then use an astringent poultice, as alum curd, and washes of astringent teas, as the geranium maculatum (alumroot), sanguinaria canadensis (bloodroot), etc., until they become strong. If the eyes are tender, let the room be darkened, and the washes be at first, weak; and if the superficial vessels still exhibit red blood touch them with a decoction or tincture of the above named astringents. Should they yet continue red or painful, give a full course, and continue lobelia in broken doses, with the poultices and washes. If the films still remain, either touch them with caustic potash on a linen brush, being careful not to touch the coat of the eye, or remove them with the knife, and then use the astringent again. You need not fear to treat them in this manner (if carefully done) as these extraneous vessels are not supplied with sensitive nerves. When killed, they may be wiped off with a silk handkerchief, and the eyes washed with an astringent liquid as before. The caustic potash may be obtained at the shops, in the shape of sticks, the ends of which may be moistened and applied to the parts to be removed; or you may make it by boiling the ley of hickory, oak, sugar tree, ash or elm ashes to the consistence of brown sugar and applying it with a linen brush.

With the exception of the means to remove the morbific materials from the eye, the treatment of this Genus differs in no material point from that of Genus 3. The inflammation frequently involves both tissues at the same time, and what will remove obstructions to the circulation in one, will remove them from that of the other. Generally, the denser the tissue, the longer the time required.

Several varieties of this form of disease are mentioned by authors; as *acuta*, *chronica*, *purulenta* (with muco-purulence), *chemosis* (*adnata* turgid, with dark blood). But the above treatment covers the whole ground. Let the circulation be equalized and the eyes kept mollified with poultices until free from matter, and then toned with astringents, and all these varieties will be cured—if cure there is for them.

GENUS 37. APHTHA.—Thrush.

Character.—Minute vesicles on the tongue, gums and fauces; at first, transparent, soon of a pearl color; often migrating through the eustachian tube, nostrils and alimentary canal; terminating in excoriating ulcerations.

The varieties are, *Infantum*, white thrush; *Maligna*, black thrush; *Diphtheritis*, a very angry inflamed ulcer.

The *Indications* in all are the same; to equalize the circulation, to cleanse the sores and heal them up.

Treatment.—The first indication is fulfilled by inviting the action to other parts of the system, especially to the surface and lower extremities, and the second by antiseptic gargles, as of bayberry or other astringent tea, with a small portion of cayenne or of number six. Raspberry or dewberry, sumach

tea, or bark, number six (diluted)—all are excellent for this purpose. A little cayenne should be used in water as a wash to cleanse the sores just previous to using the astringents; vinegar is good for this purpose. When the disease extends through the system, these same remedies should be used internally and by enema to the bowels, still keeping the surface warm and active, until the whole disappears. This form of disease is very common in children, and females before and after child-birth, in which latter case, it is often very troublesome. Medicines of an alterative nature, such as laxative bitters, as golden seal and boneset, and stimulating emollients, as sarsaparilla and elder bark, should be used constantly to keep up healthy action and purify the blood. Use the vapor-bath frequently with friction of the surface with stimulants. If these mild means fail to cure, give a full course or more, and then continue as before.

The variety of this form of disease, termed *diphtheritis* and also *maligna*, are frequently produced by mercury, and are then very obstinate to heal. But a steady perseverance, in accordance with the above directions, will generally effect a cure.

GENUS 38.—TRACHEITIS MITIS.—Mild croup.

Character.—Respiration impeded; hoarse cough; soreness in the glottis; discharge of mucus.

Causes.—Usually cold taken directly after the respiratory passages have been much heated; as when children go out into a cold, damp atmosphere, directly after playing and talking very earnestly in a damp room. The conformation of the neck may have some influence as a predisposing cause; a short, thick neck is supposed to be the most inclined to it.

Treatment.—If nothing else be near you, administer warm water freely; but if you can get lobelia, give it in a warm decoction of the herb, or in tincture. Continue it every five minutes, giving composition if the patient becomes prostrated, until you produce vomiting, when you should quit giving lobelia, and continue the composition until the stomach is cleansed, and then give an enema and a bath. If the difficulty of breathing still remains, give more lobelia and vomit the patient again, and follow with another enema and bath. As soon as relief is gained, give laxative bitters and stimulants to keep up a proper action in the system. From the first, warm applications (as cloths wrung out of hot water) to the neck, and stimulating gargles, will be good. Croup taken in season and treated in this manner, is easily subdued; but, in the ordinary way in which it is treated, with the lancet, antimony, digitalis and other poisons (see Eberle, 23), is very frequently followed by death.

GENUS 39. PNEUMONITIS MUCOSA.—Peripneumonia, notha. Spurious pleurisy.

Character.—Acute inflammation of the mucous membrane of the lungs; pain obtuse in the thorax, and often in the forehead; pulse moderately hard and frequent; respiration oppressed, attended with cough, and frequent expectoration of mucous or sputum, which is liable to accumulate and suppress respiration.

Causes.—Most commonly, cold taken directly after speaking in a hot room; or by talking during a ride or walk in a damp atmosphere, or by breathing a cold, damp air directly after leaving a hot one.

Indications.—To bring the patient back to the condition in which he was previously to taking the cold, and then to cool him so gradually and so

equally over the whole system, that he may not lose the heat again too suddenly from the lungs.

Treatment.—Give him a plenty of warm teas of the antispasmodic kind; as boneset, catnip, etc., enemas of composition, and put him into a bath of moderate temperature, with his feet in hot water, and scour his surface well. If this, with bitters, etc., does not prove sufficient, you should give him a full course of lobelia and the proper assistants. The pain in the forehead may be moderated by cool applications, and neurological operations. In this case, in croup, and in all cases of pulmonary affections, the bath should be medicated with aromatic stimulants and expectorants, put into the reservoir for that purpose, or into the kettle of water where you have no such convenience. Expectorants should also be given between the courses; but, let it be ever remembered, that dependence should be placed upon those only for the relief of the lungs of their mucus for the present, your efforts being mainly devoted to the attraction of the inflammatory action to the surface and lower extremities. In the early or inflammatory stage, the expectorants should consist solely of relaxants and emollients, as lobelia, slippery-elm, etc.; in the chronic form, they should be more stimulating, as boneset, hoarhound, etc., and sometimes a little cayenne. Holding in the mouth and near the fauces, for some time, a few drops of lobelia, tincture or decoction, so as to cause free expectoration until the sputa become white, clear, and slippery, will be found serviceable. Then use nothing but what is very soothing, as gum arabic, slippery-elm, etc., until the lungs become clogged again. Hoarhound tea will be good as a common drink, as it will promote a healthy secretion of mucus. This the cough will raise and remove. When the action is permanently determined to the surface and the feet are constantly warm, the cough will cease, because it will have no work to perform.

GENUS 40. PHthisis Mucosa.—Marasmus catarrhalis; consumption from an affection of the mucous membrane of the lungs.

Character.—“Chronic inflammation of the mucous membrane of the trachea or bronchiae or both; coldness of the surface and extremities; frequent, small and hard pulse; pain in the side; or some part of the thorax; cough, dry at first, afterward, expectoration more or less copious; shortness of breath on exercise; fever ultimately assuming the hectic character; emaciation; sweats; diarrhea.” See also Genus 12 and the preceding; in all which the symptoms are so much alike, that one may easily be mistaken for the other in a different stage. Nor does it much matter. They are all inflammation and of the same organ. The only difference consists in the tissue involved. The causes may be the same, acting on different predispositions; but the method of removal must be the same in all. See *phthisis pulmonalis*.

Causes.—Cold, a very common cause of this form of disease. Bad air, much speaking and exposure, and cramping the chest with tight clothing.

Indications.—To equalize the circulation, to loosen, attenuate and remove the mucus that may be collected on the lungs, and to raise and maintain a healthy action of the bowels, surface and lower extremities.

Treatment.—In the most acute form, that is, when the cough is dry, the pain is present and the fever very manifest, an enema, the antispasmodic expectorant drinks, the vapor-bath, with hot water to the feet, followed by friction of the surface with stimulants, will generally be found sufficient. In the chronic form where the pain is slight, the pulse feeble and the lungs are loaded with mucus or muco-purulent matter, it will be necessary to give

expectorants, and to medicate the vapor-bath in order to clear the lungs of morbid matter. The cough drops, consisting of lobelia, hoarhound, skunk cabbage, cypripedium, elecampane, spikenard, sarsaparilla, and other like articles, may be used so freely as to cause constant expectoration for a short time, and when the sputa become scanty, thin, white and slippery, the drops should be discontinued, and great attention should be paid to the surface, which must never be neglected. For the pain in the side, neurological operations, the applications of bottles of hot water and stimulating plasters; for the sweats, the vapor-bath, hot; and dash with hot instead of cold water, tempered to the endurance of the naked elbow, and rub very dry; for the diarrhea, enemas of composition, bayberry and slippery-elm. If they are still obstinate, give a tea of equal parts of ginger, cloves and allspice. If this fail, a full course, and then this. To relieve the shortness of breath, sit, stand, or walk erect, breast and bowels forward, and breathe long and low, using the abdominal muscles, and the costo-sternal (between the ribs and breast-bone) cartilages freely and fully. The food should be of the most suitable character, for nourishment, and the promotion of the right action of the bowels; nothing injurious or difficult of digestion should be eaten, and the exercise should be moderate, steady and in a pure atmosphere.

People sometimes take stimulants and expectorants for this form of disease, and find that it grows worse instead of better. This is because they continue these too long, and do not attend to the surface.

GENUS 41. PERTUSSIS.—Bex convulsiva. Hooping cough, chin cough.

Character.—Slight pain, affection of the mucous membrane of the bronchiae; convulsive cough, occurring by paroxysms, accompanied by a shrill, protracted sound in inspiration; supposed to be contagious.

This is one of the forms of disease which Professor Bigelow pronounces self-limited, that is, not to be shortened nor materially mitigated by medical treatment. See also Dunglison's Practice, vol. i, page 287.

This form of disease is very distressing, as it sometimes seems during the paroxysms, that the patient will be entirely exhausted; his strength fails, he holds himself up by the nearest object, and the blood rushes to his face and eyes, which become flushed and bloodshot, and the whole turns of a dark color. The disease usually lasts from three to six weeks, and, if it begins in the fall, sometimes continues until the next spring, involving diarrhea, and other forms of disease, which must be treated according to the directions for their symptoms elsewhere.

Causes.—Cold is generally the exciting cause, whatever may constitute the predisposition. As the disease consists in an irritable and spasmodic condition of the pulmonary nervous apparatus,

The *Indications* are, to relax the tissues, to quiet the irritability of the nerves, to promote a more free secretion of mucus from the lungs, and to tone the general system.

Treatment.—Equalize the circulation, by a course of medicine. Give anti-spasmodic teas and sirups to clear off the mucus from the air vessels, and continue to keep up the action of the surface. Great care should be taken to clothe the patient in such a manner, as to retain the heat of the body equally all over. It is too much the custom to clothe the children very warm about the body and leave the arms and legs naked or nearly so. This practice is well calculated to produce affections of the lungs, stomach and bowels. The same care should be taken respecting diet, exercise, etc., in this form of disease, that has been recommended in others. See bronchitis.

GENUS 42. FEBRIS GASTRICA.—Gastric fever.

Character.—Irritation or inflammation of the mucous membrane of the stomach, prevailing mostly in warm seasons; pulse moderately hard, and frequent; slight pain unless extending to other tissues; tenderness on pressure; attended with emesis. Also,

GENUS 43. ERYTHEMA GASTRICUS.—Erythematic blush.

Character.—Irritation of the mucous membrane of the stomach, often extending to the fauces; intolerance of food and drink; sensation of heat, and tenderness in the stomach; mucous tissue liable to become softened. The above being both inflammation of the same tissue, differing only in the extent of the latter to the fauces and the general febrile symptoms of the former, I have put them together as separable with doubtful propriety. Nor do they differ from gastritis in such a manner and to such extent as to require any very considerable difference in the treatment.

The *Indications* are, to divert the action of the stomach to the surface, to remove all irritating substances from the stomach, and to feed the patient with very soothing and nutritious articles of diet, in very moderate quantity.

Treatment.—In these forms of disease, which are very common, there is generally acid in the stomach which should be neutralized by a little alkali; a piece of saleratus of the size of a pea, or its equivalent of soda, dissolved in warm water and, drunk, will neutralize the acid. Give a light emetic followed by an enema and a cathartic of mild character, and this by the vapor-bath, which last must be repeated every day or oftener for several days, taking care to keep the external surface active and warm by friction with stimulants and clothing of suitable character and equal distribution. (See clothing.) The French physicians recommend such articles of food as gum arabic water, arrowroot, starch, slippery-elm, etc. It is very clear that the patient should avoid the use of all acrid and highly stimulating substances as food, and the medical treatment should be chiefly of the revulsive character, that of attracting the action to the surface.

GENUS 44. ENTERITIS MUCOSA.—Mild inflammation of the intestines.

Character.—Inflammation of the mucous coat of the intestines, not indicated by pain, unless other tissues are involved, but generally by symptoms of mild fever; occasional diarrhea, intolerance of emetics, cathartics and stimulants; tenderness on pressure.

Indications and treatment, in this, the same as that in Genus 43, to attract the action to the surface and equalize the circulation and nervous action by the vapor-bath, antispasmodics and friction and other excitements to the surface; when the inflammation is entirely allayed, mild enemas to remove morbid matter from the bowels, and, in some cases laxative medicines to the stomach may be necessary. Food, clothing, etc., as for Genus 43.

GENUS 45. GASTRO-ENTERITIS.—Inflammation of the stomach and bowels; a combination of the two preceding.

Here it is evident that the indications are to invite the action from the whole internal canal, and to spread it over the whole surface. Instead of the regular fashion of producing, on a small part of the body, a blister in these forms of disease, and thus often making more inflammation than we expect to cure, we use the vapor-bath, which spreads the action out upon the whole surface (and entirely relieves the alvine canal), without doing the least injury to any part of it. To continue this abstraction of the inflammation to the surface, we often repeat the bath, and, in the intervals, cover the whole abdo-

men and even the chest, with large poultices of corn meal mush, slippery-cim and lobelia; or, what is better, the bruised leaves of the bitter plants, as wormwood, tansy, burdock, etc., or the mucilaginous, as mallows, saponaria, pond lily, iris, or any succulent and innocent leaf, as mullein, cabbage, etc. When the internal inflammation is high, the external excitement must be great, and cayenne must be sprinkled on the inside of the poultices when they are just ready to be put on. In some severe cases of intestinal inflammation, we have been obliged to keep the patient in the bath (cot) for hours at a time, and to give very freely the antispasmodic medicines, as lobelia, catnip, balm, spearmint, boneset, etc., as it is proper to do in all cases and stages of severe internal inflammation.

Having shown how to give temporary relief, it is proper to speak more fully of the causes of gastro-enteritis, as it is only by avoiding these, that we can expect to retain our health after we recover it. These are chiefly irritating (acrid or acid) substances, taken into the stomach as food or medicines. Among the former, we may place unripe fruit, sour or heavy bread, strong, wet and solid potatoes, rancid butter, cucumbers, pickles, horseradish, mustard and cresses (which last are often very useful in sluggish states of the system), but to which, as a regular article of diet, we object. Among the latter is the whole train of irritant poisons used by the mineral faculty. Prof. Graham, in his work on Indigestion, says:

"When I recall to mind the numerous cases of ruined health, from the excessive employment of calomel, that has come to my own knowledge; and reflect on the additional proofs of its ruinous operations, which still daily present themselves, I can not forbear regarding it, as commonly exhibited, as a minute instrument of *mighty mischief*, which, instead of conveying health and strength to the diseased and enervated, is made to scatter widely the seeds of debility and disease of the worst kind, among persons of every age and condition."—Page 132.

"There is not, in the *materia medica*, another article which so immediately and permanently, and to so great a degree, debilitates the stomach and bowels, as calomel: yet this is the medicine, which is prescribed and sent for on every occasion. Its action on the nervous system is demonstrative of its being an article in its nature inimical to the human constitution; since what medicine besides, in frequent use, will excite feelings so horrible and indescribable as calomel and other preparations of mercury? An excessively peevish, irritable and despondent state of mind, is a well known consequence of a single dose of this substance."—Ib., page 134.

Dr. Alley says, he "has seen the mercurial eruption appear over the entire body of a boy about seven years old, for whom but three grains of calomel had been prescribed effectually as a purgative."—*Observs. on Hydrargyria*, page 40.

"Such instances of the poisonous operation of mercury, are not of rare occurrence; they are common, and only two out of a vast number that have been and are still daily witnessed, many of which are on record."—Ib., page 136.

"Dr. Falconer, of Bath, in a paper where he forcibly animadverts on its abuse, observes: '*Among all other effects*, it tends to produce tumors, paralysis, and, not unfrequently, incurable mania. I have myself seen repeatedly, from this cause, a kind of approximation to these maladies, that embittered life to such a degree, with shocking depression of spirits, and other nervous agitations with which it was accompanied, as to make it more than probable that many of the suicides which disgrace our country, were occa-

sioned by the intolerable feelings which result from such a state of the nervous system.'”—Trans. Med. Soc., London, vol. i, page 110. See Criticisms, No. 80 to 151.

Prof. Eberle on children, page 199, calls opium a “treacherous palliative,” under the use of which “the appetite and digestive powers fail; the body emaciates, and the skin becomes sallow, dingy, and shriveled; the countenance acquires an expression of languor and suffering, and a general state of apathy, inactivity and feebleness ensues, which ultimately often leads to convulsions, dropsey in the head, glandular indurations, incurable jaundice, or fatal exhaustion of the vital energies. All the usual soothing mixtures, such as Godfrey’s cordial, Dalby’s carminative, so much employed for allaying colic, pains and gripings of infants, contain more or less opium; and ~~innocent~~ infants have been *irretrievably ruined* by these popular nostrums.”

Prof. J. A. Gallup, in his Institutes of Medicine, vol. ii, page 187, says: “The practice of using opiates as anodynes to mitigate pain in any form of fever and local inflammations, is greatly to be deprecated; it is not only unjustifiable, but should be esteemed unpardonable.” “It is probable that for forty years past, opium and its preparations have done *seven times the injury* that they have rendered benefit on the great scale of the civilized world.” Killed seven where they have saved one! Page 298, he calls opium “the most destructive of all narcotics,” and wishes he could “speak through a lengthened trumpet, that he might tingle the ears of empirics and charlatans in every avenue of their retreat.” See B. M. Recorder, vol. vii, page 332.

Dr. J. Johnson says: “The whole tribe of narcotics, as opium, hyoscyamus, hop and laurel water, or prussic acid, are dangerous sedatives, presenting allurements to the unwary, with all the suavity and meekness of the serpent of Eden, and the deception too often is equally fatal!”

Similar testimonies might be given of the evil effects of antimony, arsenic, zinc, copper; ipecacuanha, and many other vegetable substances. Should experience prove to us that any of the medicines we use or recommend, produce such effects, that moment we should abandon their use for others that are harmless. See Criticisms, No. 71 to 79, and 49 to 151.

GENUS 46. FEBRIS BILIOSA.—Bilious fever.

Character.—“Same as gastro-enteritis, only the irritative state of the membrane extends into the liver, producing a morbid [an excessive or a depraved] secretion of bile.”

In this case, the bile is often deficient in quantity and depraved in quality. Its appearance of superabundance, arises from the fact that, instead of being mingled with the food in proper quantities, it is either regurgitated into the stomach, causing vomiting, or carried to the surface by the circulation, causing a yellow tinge on the skin and the inside of the eyeball.

Causes.—Any thing which produces obstruction of the emunctories or pores of the surface, and throws too much blood to the vital organs, of which, the liver, being very dense, is among the most liable to be obstructed, may be the occasion of “bilious fever.” But that which produces a vast number of the severest forms of disease, is the treatment used by the mineral faculty to cure it. Blood-letting leaves the external vessels to collapse for want of centrifugal force to keep them open; too large a proportion of blood is then sent to the liver, and the whole loaded with all the impurities that should have been thrown out at the surface. These obstruct the action of the liver, and now there is administered, to set it in motion, mercury in various combina-

tions, which is sure to "diminish its vitality," and render it more torpid still. Its labors now to relieve itself of the double oppression (of blood-letting and mercury), produce the sensation of pain, which must be allayed by that "treacherous palliative" opium (Eberle), deceptive "as the serpent of Eden" (Johnson), that does "seven times more harm than good" in the grand operations of medicine (Gallup). If now, there is any action at all of the liver, it is not wonderful that the result is a depraved or a deranged secretion; that it is bad in quality, and appears on the surface or in the eyes or the stomach, instead of combining with and becoming lost in the ingesta or food, as it always ought to be.

The *Indications and treatment*, are the same as in gastro-enteritis, namely: to equalize the circulation and nervous action, which must be done by the antispasmodics and bathing, and to clear out obstructions and maintain the equilibrium of action. When you find the patient burning hot on the surface, and ejecting every thing from the stomach, sponge him with water, a little alkaline (say a quart of good ashes to a pailful of water, or a tablespoonful of saleratus, potash or pearlash to the same), give a little weak, warm tea of lobelia, and repeat it every two or three minutes; if thrown up, give some by injection. Continue this process steadily and perseveringly, until the surface becomes cool, the stomach receives the fluids kindly, and the perspiration becomes free. Now give a regular course of medicine in the ordinary way, except that the teas should not have much cayenne or bayberry or other astringent in them. Boneset, catnip, balm, pleurisyroot, and other aromatics and sudorifics, are much better. While the fever continues strong, no cayenne is needed; but, when it goes off, if the circulation sinks below par (which it seldom does), you may give a little cayenne. After the course, the laxative or alterant bitters, must be given regularly to act upon the liver and keep the bowels open. Should the common bitters not be sufficiently active, it will be necessary to add more bitterroot, blackroot or butter-nut extract or even a little gamboge. When it is difficult to hold the relaxation, in other words to keep the fever down, you should give a lobelia pill every hour or so, more or less, to keep the system a little nauseated; and once a day give enough to vomit, and after emesis, give an enema and the bath. Let this process be continued until the system is entirely free of fever, and the appetite begins to return, when your treatment may be more moderate.

Food.—See the different articles on diet, as referred to in the index.

This form of fever if taken in season and properly treated, will last but two or three days. We have often cured it in two. Neglected or badly managed, it sometimes lasts for weeks.

GENUS 47. DYSPEPSIA.—Indigestion.

Character.—Digestion impaired; appetite unsteady; eructation; cardialgia; nausea; chronic inflammation of the mucous coat of the stomach; acidity; occasional diarrhea; general costiveness.

The different stages of this form of disease, present almost all the phenomena peculiar to the various affections of the alimentary canal. Hence, dyspepsia has been called the hydra-headed disease; and it is therefore very manifest that no particular course of treatment will suit all cases; but that each case should be treated according to its peculiar character. Supposing the case to be marked by the above symptoms—or any of them (for probably no one case ever did combine just the above and no others), the

Indications would be to remove the cause of each class of symptoms, and restore the lost or impaired function.

The *Causes* of impaired digestion, are innumerable. It will suffice to give only a few specimens. Want of physical exercise, connected with excess or errors in diet, is a fruitful cause of dyspepsia. The organs of the body were made for action, without which they will wither and die. Exercise enough, but irregularly and unequally disposed among the organs; as when we use one limb much and others little in the mechanic arts; or one series of muscles at the expense of others, as in all cases of unnatural positions of body, is the cause of a vast multitude of cases. Compression of the vital organs by corsets, waistbands, coats, etc., destroys the health and life of multitudes. It is utterly impossible for the stomach, bowels, liver, pancreas, lungs, etc., to do well the work of digestion and vitalization, when their action is, in the least degree, impeded, even by a simple habit of leaning forward and breathing at the top of the chest.

Food of an irritating and innutritious character, hurries on the process of digestion so fast as to leave it but imperfectly done, and is therefore a cause of much dyspeptic suffering. It passes rapidly from the stomach to the bowels, where, if vegetable and farinaceous, it ferments, producing colic; and sometimes acid discharges; if animal, it gives offensive breath, and recrementious eructations; if oily, it coats the tongue and depraves the taste; if acrid, it produces inflammations, soreness, and the rejection of food, etc. Even the best vegetable medicines as cayenne and other acrid articles, if used as daily food, overwork the digestive organs, produce debility, and thus impair the function, as overmuch exercise will debilitate the whole man.

Another source of extensive and severe dyspeptic suffering, is intense and long continued mental labor or emotions. The student and hypocondriac suffer much from these causes. Last but not least, one of the most common, extensive and irremediable causes of dyspepsia, may be found in the poisons given as medicines for this and every other mal-condition. (Crit., No. 71 to 151.) Blood-letting removes the fluid that vitalizes matter and nourishes the system, that gives digestive power to the organs and acts as a medium of communication for the living globules to their places of destination. "All poisons suddenly and rapidly diminish a great proportion of the vitality of the system," and, of course, greatly retard when they do not entirely destroy digestion, the peculiarly vitalizing process. See Crit., No. 51 to 70, where the effects of poisons are exhibited.

One of the most fruitful causes of dyspepsia, is rapid eating and imperfect mastication. The scrambling mode of gormandizing so fashionable in hotels, taverns, boarding houses, steamboats, etc., is calculated to give the dyspepsia to three fourths of those who adopt it. A right hand helpmate to this, is the eating of many sorts of food at the same meal, which stimulate the appetite to eat too much, and lastly, the hot drinks used to "wash it down," dilute the gastric juice, and render digestion tardy and imperfect, if even possible.

In the preceding pages, I have shown the causes, indications and treatment of the various symptoms, above described; but, as line upon line, and precept upon precept in this matter, are wanted, I may be excused for further remarks in this place.

Dyspepsia may be relieved by a simple course of medicine, but it can be effectually cured only by removing all the causes that have produced it. The disease is nominally "impaired digestion;" but it is just as much, impaired absorption, circulation, secretion, hepatic, pancreatic, lacteal, pulmonic, dermoid, or almost any other action; for they are all involved in this deficiency. And the perfect cure of dyspepsia is the cure of every other form of disease to which the body is ever subject. The practice of giving tonics to cure

indigestion, before the system is purified of morbid irritants, is very absurd. The first thing to be done is to remove all obstructions from the alvine canal, the surface, lungs and wherever else they are found, and then to use stimulants and tonics, exercise and good food, for the restoration of the system. If the appetite is unsteady, it is because the stomach is frequently overloaded with food, and the salivary glands are inactive. A voracious appetite indicates the presence of much phlegm on the stomach. This shows the necessity for emetics. Eructations are caused by the gas in the stomach, that has been disengaged by the fermentation of vegetable food before it digested; and require the use of a little alkali, a little abstemiousness, and occasionally animal food, as lamb, mutton, fowls, venison, and other wild game, dried beef, etc., for a few meals, until the acid is all out of the stomach, when vegetable food should be used again, though in small quantities. The cardialgia (pain in the heart), most commonly proceeds from these obstructions and will pass off on their removal. If it does not, let the part be rubbed with the hand, stimulated with liniments, caloric, electricity and warm teas, etc. The nausea is produced by the vitiated contents of the stomach, which should be removed by an emetic. The vapor-bath will often be found sufficient for this purpose. The irritation of the stomach is to be treated as gastritis, to which it is but a prelude. The diarrhea is usually caused either by taking cold or by eating irritating substances. Remove the cold by a bath, enemas, and hot teas, and the irritants by emetics, enemas, etc. The general costiveness arises from the absorption of the fluids from the solids, in their slow progress down the alvine canal, and the inactivity of the bowels is often produced by taking poisons for medicine. The bath, enemas, and a few doses of laxative bitters, or at most pills of boneset, cayenne, nervine, or a strong tea of blackroot, will do the work; and the bowels must be kept free, by attention to the rules here laid down. I object to the constant use, in this case or any other, of cathartic medicine. A mere steady motion of the bowels is sufficient while a constant physicking debilitates them, and brings on piles, fistula, and various other distressing forms of disease, particularly in females, who have little exercise. The syringe and the vapor-bath, for the most part, are the great and safe reliance for promoting a proper action of the bowels.

GENUS 48. DYSENTERIA LENTA.—Simplex—mucous dysentery.

Character.—Inflammation or irritation of the mucous coat of the rectum; frequent dejections of mucus; gripings and tenesmus; fever mild. In this form of disease, the discharges are frequent, of mucus, but not of excrementitious matter. The upper intestines are generally inactive, and require a dose of laxative medicine to set them in motion. A pill of lobelia seed, butternut or boneset extract, and a little cayenne, is good for this purpose.

Causes.—Cold, irritating substances taken as food or medicine, worms.

Indications.—To equalize the circulation, to cleanse the part affected, and to tone up the whole system.

Treatment.—Give warm and antispasmodic teas, as ginger and catnip, sage, etc., or weak composition, until the stomach is pretty full, then an enema of the same, with a little lobelia, and after that has acted, another of composition, or of bayberry or sumach, and slippery-elm, or raspberry, witch hazle leaves, alumroot, blackberry brier, grapevine. Now give a vapor-bath and tone the system well. This, with a few repetitions of the enemas, will often suffice. Should it not, steaming below the waist, sitting upon a warm stove covered with a cloth; or on a jug or canister of boiling water, or in a tub of warm water, so that it shall completely cover the pelvis, drinking freely of warm

teas the while; or, lastly, taking a full course of medicine, and following it with the above means, will do the work. The food should, of course, be of an unirritating kind, yet such as to pass regularly through the bowels. (See food.) The aromatic teas, as of spearmint, pennyroyal, caraway and fennel seed, are good to prevent tenesmus; but there is nothing so good as the steady application of caloric to the part, as the sitting on a warm stove or a bottle of hot water, for hours, and using laxative enemas.

If the rectum is very sore and highly sensitive, the enemas should be mild, and often repeated, and should contain some antiseptic, as myrrh, charcoal, etc., and, as the soreness is generally produced by some acid substance, a little saleratus, pot or pearlash, should be put into the enemas, until the severe cutting pain during the discharges, ceases; soda may also be taken.

If worms be known to be present, treat them as directed under that head. Inject the juice of the arbor vitæ or any of the cedars, or strong scented evergreens; or strong salt and water, or the bitterest decoction you can get—that of the bark or leaves of the southern pride of China, has been found excellent in my practice. This is the principle, and the plan of operations. You may carry out this principle with a great variety of means, and you *must* repeat the operations, and sustain the patient with good food, stimulating liniments to the surface, proper clothing, exercise, etc.; but you must not war against the principle, if you would attribute to *your* skill the honor of success. True the patient often recovers under a very different treatment; but the credit should then be given to the constitutional efforts—not to the practice.

GENUS 49. CHOLERA INFANTUM.

Character.—Usually attacks children at the age of dentition, and in the warm season of the year; sometimes by vomiting; debility; sometimes by frequent intestinal discharges of thin, watery, and occasionally bilious materials; sometimes a curdled substance is passed. There is a small and frequent pulse, a tumid abdomen, and a lingering fever, producing great emaciation.

Causes.—Irritation from teething; crude, indigestible food to the child or the mother; the milk including many of the impurities of the system, as in milk sickness.

Indications.—To remove all irritating substances from the stomach and bowels; to divert the action to the surface, and to maintain that determination.

Treatment.—I usually commence with an emetic, and follow with enemas and the vapor or warm bath, and sometimes a little blackroot or butternut; then I put large poultices on the bowels, consisting of mush and milk, with a little slippery-elm, and when the surface is cold, a few grains of cayenne sprinkled over its surface. I give also carminatives; as peppermint, caraway seed and other aromatic teas, to keep off the griping. Ginger, cypripedium, asarum canadense, scutellaria lateriflora (skullcap), and other similar articles, are good for this purpose. I very seldom lance the gums. I prefer tying to the neck of the child an ivory ring two or three inches in diameter, or a smooth piece of wood, which it will bite, and thus cut the teeth through without the danger of hemorrhage or cicatrization. If the teas given at first are rejected, the bath will make them lie on the stomach, and also check the discharges. But, soon after the patient is out of the bath, the symptoms will return unless you use the proper means to continue the same action which the bath produces. These should be warm clothing of the lower limbs, diffusive stimulants internally, and friction externally with stimulants, as cayenne and vinegar. The smallness and frequency of the pulse is corrected by the removal of the obstructions and the promotion of cutaneous excretion; so the

fever. For the tumid abdomen, enemas and poultices, or the warm or vapor-bath should be used freely; and, in obstinate cases, a full course. Each part of the treatment must be steady and constant, until the desired effect is produced, and the patient should be strictly watched to prevent relapse.

I have cured many cases of this complaint by a little ginger and raspberry tea, an enema and proper clothing, alone; others by a composition made of, say a pound each of golden seal and bayberry, decocted strong, and boiled to a gallon, add two quarts of brown sugar and a pint of number six. Dose, from half a teaspoonful to a whole one, three to six times a day, and the bath and proper clothing. Enemas of raspberry leaf tea, followed immediately by others of slippery-elm, will complete the cure.

GENUS 50. ERYTHEMA URETHRALIS.—Paruria ardens, Micturition.

Character.—Necessity of urinating frequently, urine scanty and bloody, iritative state of the mucous membrane of the urethra, extending into the bladder.

Causes.—Cantharides, spirit of turpentine, and other acrid articles. Cold, injuries.—(Eberle.)

The *Indications and treatment* are the same as for irritation and inflammation everywhere else; viz.: equalize the circulation by relaxing the general system and exciting the inactive parts, as the feet and the surface, and keeping the part comfortably warm with clothing during the day, and bottles of warm water at night. Give a vapor-bath often, and a course if the stomach is foul. A warm poultice, or bottle of warm water laid on the pubes, will generally relieve this affection. So also will diuretic teas; as of poplar bark, cleavers, juniper berries, elder bark, watermellon seeds, asparagus, slippery-elm, etc., with the bath. Repeat this treatment until success attends it.

GENUS 50. DIARRHEA.—Looseness of the bowels.

Character.—Frequent alvine discharges of various materials; more or less gripping; absence of tenesmus.—(Eberle, 102.)

Of this form of disease there are several varieties:

1. *Stercoracea*.—Copious discharges of thin fecal matter. This variety is usually caused either by a sudden cold, or by some irritating substance taken into the stomach. If the former, a little hot tea, an enema, and a bath at first, will subdue it. If it has progressed so far that this treatment will not control it, give a full course, keep the bowels and all below them warm, and use tonics and stimulants.

2. *Mucosa*.—This seems but a sequel to the first, and consists, for the most part, in a discharge of viscid mucous matter. The treatment should be as above, but more perseveringly applied. The vapor-bath and enemas should be used freely. If the appetite fails and the fecal discharges are not frequent enough, and pains accompany, there should be given a laxative with a diffusive stimulant, to clear out the whole canal—and this should always be followed by the bath to produce a determination to the surface. (See physic.)

3. *Chylosa*.—Discharges of a milky appearance. This shows the inaction of the absorbents, and indicates the necessity of a free use of the bath, the great promoter of internal absorption.

4. *Lienteria*.—Aliment discharged with but little alteration. This shows bad digestion and the necessity for a more thorough mastication of the food, and a better action of the stomach, which must generally be cleansed by an emetic. Then enemas and the bath should be freely used.

5. *Aquosa*.—Discharges copious and of a watery kind. This shows the determination of the fluids to the internal canal, and the necessity of exciting

a proper action of the surface, which must be effected by the bath, and friction with stimulants. Many of the cases of cholera asphyxia, presented this kind of discharge. I gave here, hot medicine, as cayenne, composition, etc., then an emetic, an enema and the bath. The hot bitters, enemas, frictions with stimulants, and good food completed the cure.

6. *Biliosa*.—Discharges containing bile. These indicate a deficiency in the process of chylification, and in the centrifugal circulation. If greenish and unremitting, they show an excessive action of the liver, and the importance of attending well to the surface. If they are yellow and produce pain or tenesmus, they show that the bile is generated slowly and has become acid; and they indicate the use of an alkali in the medicines both to the stomach and bowels.

Sometimes the discharges look much like the washings of flesh, are very offensive, and require vigorous treatment; at other times they are "tubular" and resemble the inner coat of the intestine. Dr. Good (Study Med., vol. i, page 137) says, this "occurs frequently in practice, and appears to depend on a peculiar irritability of the villous membrane of the large intestines, which, in consequence, secretes an infusion of congealed fibrin, mixed with albumen, instead of secreting mucus, occasionally accompanied with some degree of chronic inflammation. It has a striking resemblance to the fibrous exudation thrown from the trachea in croup, but is generally discharged in longer, firmer and more compact tubes. There is commonly a considerable sense of heat and uneasiness in the rectum; and, upon evacuation, the sphincter partaking of the irritability, contracts so forcibly, that the feces are discharged with great pain, and of very small caliber."

"From the laminated appearance of this effusion, it has generally been mistaken for a separation of the mucous membrane of the intestines, with which it seems to be confounded by Dr. Simson (Ed. Med. Es., vol v, page 153), but the exudation has no vascular structure, will not bear extension, and loses its form as soon as handled. At the time of writing, I have a case of this description under my care, in a lady of delicate habit, twenty-eight years of age, who has been long laboring under a peculiar irritability of the rectum, giving rise to some degree of chronic inflammation, and a forcible contraction of the sphincter on evacuation. She has already discharged this kind of effusion for six weeks, and in tubes so perfect as at first to excite no small alarm in the attendants who noticed it." He then quotes other cases, and says that the seat is principally in the lower intestines.

I have seen, myself, much of this false membrane in my treatment of disease. I have brought it from the stomach and from the trachea. At first I supposed it was the mucous membrane itself, from the fact of its form and fibrous appearance, and also from the fact that it leaves the intestine (almost dead before) in a highly irritable if not an inflamed state. But, though this may not be correct, there is nothing impossible nor improbable in the supposition that the mucous membrane is sometimes detached. Mercury often makes sad havoc with it, and so does alcohol. In one case of the latter, in which much of this membrane was discharged per anum, I also removed with a tooth brush, the real mucous membrane from the inside of the cheeks, lips, and the top of the tongue, and cut it with the scissors, from the tip of the latter and from the prolabia. I have examined both stomachs and intestines, where the mucous membrane had been removed, from very large surfaces; and I have seen patients get well after half the mouth had been deprived of it. The idea that a person can not live when any part of the mucous membrane is destroyed, is about as reasonable as that one can not live after

the external covering has been removed by a blister, six by eight inches. The mucous membrane is a continuation or doublature of the superficial covering of the body, and is as liable to disease and removal, and quite as capable of restoration. In the treatment of this last affection, I have found it necessary to persevere for months and even for years, in the use of strong, hot medicines, to both the stomach and bowels, and to exercise all possible diligence to maintain a healthy action of the surface by baths, friction, warm clothing and proper exercise.

On the whole, there is scarcely a more prompt or common symptom of disease, than some form of diarrhea, nor a more common cause of it, than a simple loss of equilibrium of vital action, and, of course, of caloric, or heat. Nor is there, as a general remedy, one more speedy or effectual in the onset, than a free use of warm drinks (compositions), enemas and the vapor-bath. When the disease has become chronic, these remedies must be repeated often, and aided by an emetic and tonics, always remembering to regulate the diet, clothing, and exercise.

When the disease, of which diarrhea is a symptom, proceeds from improper food, or bad articles used for medicines, the internal canal must be cleansed with a course or more, if necessary, and then the same attention must be paid to the surface as before. When it proceeds from worms, as it sometimes does, treat them as directed hereafter in connection with the course just laid down, remembering, in all cases, as fast as you remove the cause, to stimulate the organs to healthy action, by means of cayenne, bitters, friction, food, exercise, etc. (See these articles.)

SECOND SERIES.

Attended with mucous discharges from, or accumulations in, other surfaces than that of the alvine canal; also discharges from organs connected with mucous surfaces.

GENUS 52. PTYALISMUS.—Discharge by spitting.

Character.—Copious discharges of muco-salivary matter from the mouth and fauces.

Causes.—Local irritation—as pregnancy. Mercury.

Indications.—To attract the action to other parts of the system, to cleanse the localities and maintain a healthy and equal action everywhere.

Treatment.—When it proceeds from pregnancy, give an emetic or two, enemas and the bath, and use frictions to the surface. If this relieve, omit the emetic and continue the rest until the salivation returns. Then repeat the emetic, and follow up the other treatment as before. Some will be entirely cured by one course, some require several, and very few will require the continuance of this treatment during the whole course of gestation. There is no danger in it. (See my work on Obstetrics.)

When it proceeds from mercury, you have a hard task before you. The use of this article as medicine, has caused more suffering than all the other *improvements in civilization* put together. When it has taken but slight hold on the system, it can soon be removed by our heating, stimulating and purifying treatment; but, when it is once seated, as Professor A. T. Thomson says, "in the glands and the bones," you need hardly expect thoroughly to eradicate it. The electro-chemical bath appears to take the metal out of the system, but not always to restore the vitality of the organs. In some cases less severe, a persevering use of courses, stimulants and laxative bitters, with a careful and constant attention to the surface, with the bath and liniments,

will effect a thorough cure. I have often done it; but I had one case in which, during five years, I relieved some eight or ten attacks of it, in some of which it produced dreadful ulcers in the mouth and alvine canal, and she died at last of its effects, though the mercury had not been given for five years. And I have seen other cases which I did not believe that any course of practice could cure. This is a gloomy picture I know, but a true one. They who would not become experimental witnesses to its truth, will do well to take no mercury for medicine. Many persons escape its ravages; but only because, the vital resistance prevents it from getting full possession. (See Crit., No. 142.)

It is often recommended to stop mercurial salivation by the use of astrin-gents, as alum, kino, etc. This I believe to be a dangerous practice. The only safe way to stop it, is to give cayenne freely until the use of the vapor and chemical bath and lobelia, shall have relieved the system of the virus which excites it.

GENUS 53. ASTHMA HUMIDUM.—Mucous asthma.

Character.—Expectoration of viscid mucus; suffering exacerbation, preceded by dullness, lassitude, oppression of the precordia; laborious respiration, aggravated by a recumbent position.

This form of disease is often very distressing, the obstructions of the respiration amounting almost to suffocation, so that the patient is unable to lie down at night for months and even years; but is obliged to be propped up in bed; and he is sometimes compelled to sit the most of the time near an open window, "to get the fresh air." He can use so little of it, that what he does get must be of the best quality.

Causes.—Hereditary—cold and moisture; bad habits of body and of respiration; compression of the chest, excited by any thing that tends to over-work and debilitate the system.

Indications.—See page 100; entirely applicable here.

Treatment.—Lobelia, cayenne and nervine (third preparation), in small doses frequently repeated, with the vapor-bath, or heat in some form to the surface and to the lower extremities, until the viscid mucus is attenuated, loosened, detached from the pulmonary vessels, and easily raised, when the use of lobelia, etc., should be increased to the extent of free emesis; after which, it should be still continued in small doses, until relief is established, the labor of respiration is removed, and the patient can lie down and sleep. When conveniences admit, the patient should be enveloped in the bath, and there inhale the effluvia from aromatic herbs and from lobelia itself. When relieved of the paroxysm the stimulants and tonics should be used. In some cases, several courses will be required to break up a paroxysm, and the paroxysms may return on the application of the exciting causes; but the course must be repeated, and followed by the intermediate treatment as above. If the bowels are constipated, relieve them with enemas, and if necessary, a mild laxative, as blackroot or castor oil and cayenne, with a few drops of oil of peppermint, in a tea of the herbs. Many different means may be used, and in different cases may prove successful. Professor Elliotson of London says, that the tincture of lobelia alone, is worth more, in the treatment of this form of disease, than all other remedies known to the profession. It has cured very many cases in this country; but the course prescribed above, and in other places, is that which has proved the most effectual.

I knew a servant in Virginia, to cure asthma of long standing by the free use of the root of *convolvulus panduratus* (bind weed). The various anti-

spasmodics, skunk cabbage, valerian, skullcap, boneset, etc., are all good here.

GENUS 54. DIABETES MELLITUS.—Flow of sweet urine.

Character.—Copious discharge of urine containing saccharine matter, affording the smell of honey; thirst and frequent pulse, dryness of the skin and costiveness.

Causes.—Cold, irritating diuretics, as cantharides, spirit of turpentine, etc. Whatever may obstruct the secretions of the body.

There are four prominent outlets for the fluids of the body, the surface, the alvine canal, the lungs and the urinary passage. When these are all in good order, the rest of the system is almost always in good health. But when either is deficient in action, one of, or both the others must make up that deficiency; so, excess in one or more, produces deficiency in the others; hence, in diabetes we have "dryness of the skin," and in excessive perspiration, scantiness of urine. When the lungs or the surface are obstructed, the fluids are generally determined upon the internal canal, and a watery discharge is the result. Sometimes the fluids are pressed to the nose as in influenza (Genus 35); at other times the lungs are overloaded with humidity, as in the last Genus. Whatever be the organs affected, or whether the one or the other be excessive or diminished.

The *Indications* are, to equalize the action of these opposing or sympathizing surfaces, by restoring the diminished secretions and cleansing and toning the organ whose action is excessive.

Treatment.—In the above case, give a full course, and then pay strict attention to the surface, and bowels. In addition to this, it is sometime necessary to introduce, through a catheter, washes into the urethra, first of a cleansing nature, as warm, weak soapsuds, and then an astringent, as hemlock, bayberry, witch hazle, raspberry, etc. The catheter should be of gum elastic, small, lubricated with slippery-elm mucilage, and carefully introduced so as to produce little irritation. Then introduce the liquid through the tube, by means of a small, sharp-pointed syringe. Let the catheter remain until you have used all the several kinds of injections. But the main dependence is to be placed on restoring the equilibrium of action and the general health of the system. All direct efforts to produce specific effects, irrespective of a balance of action through the whole body, do more harm than good.

GENUS 55. LEUCORRHEA SIMPLEX.—Fluor albus, whites.

Character.—Discharge of mucous matter from the vagina without infection; usually heat of urine; disappearing during menstruation, becoming acrimonious and fetid.

Causes.—Cold, uncleanliness, disappointed affection, grief, impure thoughts and exercises, ill treatment from the other sex; severe exercise, especially going up and down stairs, lifting, etc.

Indications.—To remove all the causes, and to strengthen the general system, as well as the particular part.

Treatment.—A course or two of medicine to cleanse the system, and enemas to the vagina of, first, soapsuds, then astringents, and lastly slippery-elm. Steam often, rub with stimulants, bathe the feet in hot water; cleanse the part as above.

The heat in the urine may arise from inflammation of the urethra; if so, warm fomentations to the part, or warmth and moisture applied in any manner, will relieve. If the discharges are acrimonious, drink weak solutions of seleratus or of soda, and also inject them into the vagina. If fetid, inject

with a solution of chloride of lime or soda, made by putting a tablespoonful of the chloride into a pint of warm water, and using the clear (strained and settled) fluid. A weak solution of copperas is good for this purpose.

It may be supposed that I am trifling when I say disappointed affection ; as it is generally believed that this is incurable without the attainment of the object. But I am serious. If the disappointment arise, as is usual, from want of a reciprocal affection, this is reason enough why the object should be no longer desired ; as an unequal couple will never be happy in the yoke, however much one of them may desire it. So grief is deemed incurable. So it is, except by the exercise of good sense in the subject. The physician must advise the patient to abstract the thoughts from the cause of the grief, and fix them on something else, as no good, but much evil, must result from the continual contemplation of painful subjects of thought. The impure thoughts, etc., must be restrained by the cultivation of a high moral and religious sense ; and as to ill treatment from the other sex, the party should be made acquainted with the ill effects of such treatment, and persuaded, if possible, to correct it ; if he will not, it is scarcely ever, in my opinion, the duty of woman to remain where she is subject to an abuse which is wearing out her physical energies and shortening her days.

The diet should be plain, unirritating, vegetable, farinaceous and free from acids ; and the exercise, moderate, steady, and in a free circulation. (See food, exercise, etc.) So also if any symptoms not mentioned here should be present, look for that symptom in the index of symptoms, and treat it as there directed.

GENUS 56. BLENORRHEA SIMPLEX.—Gleet.

Character.—Mucous discharge from the urethra without infection.

This form of disease is much like the preceding ; is induced by the same causes but affects a different though adjacent organ. The treatment of course, should be much the same, directed to the proper part. It very often, however proceeds from a mere strain, or what is called “overdoing ;” in which case, attention should be given to the improvement of the general health, the diet and exercise moderate, and time allowed for the slow process of the local recovery.

GENUS 57. BLENORRHEA VIRULENTIA.—Gonorrhea, Clap.

Character.—Copious discharge of vitiated muous from the glands of the urethra ; burning pain in micturition ; infectious.

Causes.—Impure or excessive coition.

Treatment.—It is well generally to give a course or two, and perhaps to repeat it at distant intervals. The bath should be given frequently ; and, if the discharge and the burning do not cease, use injections as directed for leucorrhœa and blenorhoea ; then use the alteratives, as the laxatives bitters, burdock, sarsaparilla, spikenard, bitterroot, etc. I have sometimes removed it by a little composition tea alone, or with this and the bath. Until the virus is manifestly removed from the system, the medicines used should be of the relaxing and stimulating kind, and the surface and bowels at all times kept free. Then astringents, as hemlock, bayberry, pond lily, raspberry, witch hazle, alumroot, etc., may be used to advantage. A light vegetable diet, and constant employment are indispensable. But the practitioner may proceed, in many cases, in vain, in this or any other course of treatment, the disease giving way while he works vigorously, and returning soon after he diminishes his efforts. The reason will be, as in Genera 55, 56, that the patient still indulges the train of thought, feeling, and perhaps the action, that first induced and afterward aggravated the disease. The system, or a

special portion of it, having gotten into an irritable habit, it is almost impossible to rid it of all vestiges of the virus, so that the continued irritation will not again call them forth, and combine with them the proper material to be manufactured into the specific poison. If the whole lump be purified and kept so, the small dregs of the disease will easily be removed, but if the nervous system is still allowed to accumulate the proper material for fermentation, the whole body will soon become impregnated as before. These considerations show that the patient, when properly instructed in relation to these matters, is more blameable than the physician for failure in the treatment. I always candidly and fully instruct the patient in the real cause and nature of his disease, and tell him what is necessary for its removal. If then I find him disposed to co-operate with me, and active in his efforts to this end, I can assure him of success; if not, am sure to dismiss him as incurable until he changes his habits and feelings.

GENUS 58. SYPHILIS LUES VENEREA.—POX.

Character.—A vesicular eruption, terminating in ulcerations not inclined to heal, with ragged edges, called chancres, often tumors in the groin called buboes; copper colored spots on the skin, succeeded by nodes on the bones, and deep seated pains; ulcerations in the throat deep and ragged, affecting and destroying the cheeks, nose cartilages, and even the bones; very persistent; not easily eradicated; irritative fever; emaciation.

This is but a description of the progress and degrees of the last Genus; noting the conditions of its different stages, the difference consisting chiefly in the acquisition of the disorder from long standing or very bad cases.

Cause.—An irritating, infectious material received by contact with one in whom it is persistent. It is sometimes acquired by simply coming in contact with the body of another of the same sex, by inhaling the breath of the infected, sitting where they sat, or even by sleeping in sheets in which he had slept. If not well scalded immediately after use, the tent, blanket, or box where a syphilitic patient has been bathed, may communicate the virus.

The cause of this disease is undoubtedly found either in the element of the natural secretions of the sexual system, after disorganization, or in the compound to which that disorganization gives rise, and is among the most loathsome and destructive consequences of deranged vital action and the undue retention of recrementitious matter.

Indications.—To remove all the virus from the body and all the local determination of thoughts as well as actions, and to restore health and vigor to the general system.

Treatment.—The treatment should be similar to that recommended in Gonorrhœa, so far as it goes; but the ulcers, buboes, etc., require further notice. In case of buboes (which are said, erroneously, by several "distinguished professors" never to exist except where mercury has been given), poultice them with pond lily (yellow is as good as white), lobelia, slippery-elm, tilia comfrey, iris, or other mucilaginous articles, with a body of bread, cracker or corn meal and milk, in connection with the general treatment, until they are reduced, when the body should be kept cool, the cool hip-bath daily used, the bowels kept open, and diet and exercise attended to.

In cases of open ulcers or chancres, cleanse them with soapsuds (with a syringe if the holes are deep), then wash them with the best astringents, as bayberry, hemlock, alumroot, bloodroot; and antiseptics, as cayenne, tincture of myrrh, polygonum hydropiper, alkalies, etc., then poultice with slippery-elm, charcoal and dregs of number six, with cracker or bread and milk. Continue courses occasionally, with alterants and these poultices, until the chancres

are clear, sweet, and disposed to heal ; when they may be washed as above, twice a day, and dressed with elder salve. Should they inflame and the discharge become offensive again, repeat the poultices, as long as may be necessary, keeping the stomach in good order, the surface and bowels open and the feet warm. Treat sores on the face or elsewhere, as nearly as possible in the same way.

I have had many cases of this form of disease ; one man had many large sores on the feet, hands, face and knee. Under the general treatment the small sores were healed, but, on the inside of the head of the left tibia, was a very large one, caused by an incision made to the bone, by a surgeon who supposed there was pus there, when there was not. The wound was some inch and a half long, and it gaped open to the bone ; but the flesh on each side looked dead. After a course of medicine, I filled the wound with the best cayenne, and laid a poultice over it. The action of the medicine was not felt until late in the night, when he was awakened by it, and thought he was about to burn up. I had, however, told him that it would smart, but he must bear it until I came in the morning. On my next visit and the reception of a blessing, in his peculiar way, I proceeded to remove the poultice. There came off with it, half an inch of the dead flesh on each side of the wound, leaving bare a large portion of the bone, and the sides of the wound looked as though they would bleed, but they did not. I cleansed it with bayberry, and diluted number six, and poulticed it again with lily, slippery-elm and a little lobelia. This, with courses, I continued for several days, when an orifice was naturally opened an inch to the right and below the former, from which I drew a large core ! This, instead of the other locality, (which had been mistaken by the surgeon), was the seat of the "gathering." Under this treatment, perseveringly applied, he soon became able to walk to his store, which he had not done for twelve months. In a little more time, he said he was clear of the disease. He had paid hundreds to the doctors for aggravating the disease, and aiding it in destroying the joints of several of his fingers and toes. I charged him twenty-five dollars for curing him, but he was not willing to give me but eighteen. I took it and left him. He went to his business, and, as was said, to his bad habits again. Of course he acquired the disease anew, and, as I had severely condemned his conduct, and told him I would never relieve him again, he returned to the mineralities, like a dog to his vomit, paid several more hundreds, and is now I believe in his grave !

I had another very bad case. The gashes in the groins and elsewhere, were numerous ; one nearly six inches long and so deep that it laid bare the inner vessels and muscles of the thigh. Into this also I put soapsuds, astringent washes, number six and cayenne ; and poulticed as in the other case, at the same time giving courses, alteratives, enemas and baths, for several weeks when his sores were all healed but one, and that nearly well, and he left for some other country, where I know not. I had other bad cases which I completely cured ; and some cases not very bad, as I supposed, which I could not cure. This fact led me to consider the whys and wherefores, and I found them in the habits, feelings, thoughts and temperament of the patient. Those who would take into serious consideration the evil causes and effects of this disease, and set the face of body and mind against them, that is, upon something else, good and useful, would recover, even though they were very bad ; while those who would not do this, would be relieved but for a time.

In the treatment of some cases of gonorrhœa and leucorrhœa, I have found it almost impossible to cure the patient who had, regularly, legal access to

the exciting causes ; but, after these matters were explained, understood and acted upon, I had no difficulty. Heads of families will do well to regard this hint ; abstinence in more ways and things than one, is among the best of medicines ; and it leads to no exposure. For want of this alone, many a delicate frame withers and dies.

These facts show the folly of looking to specifics for this or any other form of disease ; they stamp with arrant quackery, the use of mercury, or any *secret nostrum*, however good, in proper therapeutic exhibition.

The sum of it all is, that our systematic, general and local treatment, with relaxants, stimulants and tonics, applied as directed in this work, will remove the extraneous causes and the immediate effects of all forms of disease, so long as they are removable by any means whatever ; but the question whether the patient shall recover and retain his health and strength, depends on the amount and character of instructions he receives from his medical adviser, and the degree and faithfulness with which he obeys these instructions. These remarks will serve to explain, to the young practitioner, the reason why, with the same medical treatment, one patient recovers and another does not ; and to relieve his mind from the fear that, even in our glorious science, there may be a remnant of that guess work, mystery and humbuggery that have characterized all the other systems of medicine that have arisen since the days of Paracelsus.

GENUS 59. HYDROPS UTERI.—Dropsy of the uterus.

Character.—Tumefaction, with obscure fluctuation in the hypogastric region ; lower section of the uterus elastic to the touch. It sometimes consists of a mucous accumulation, filling the cavity ; and sometimes of hydatids, or little egg-like sacs of watery fluid, suspended, like bunches of grapes, to some part of the inside of the uterus. Be careful not to mistake it for pregnancy. See next page.

Causes.—Cold, or some irritation and inflammation of the uterus, may close the os uteri, and produce the first form of this disease. General inability of the system to rid itself of morbific matter, may produce the latter. Some have attributed these cysts to animalculæ, but the presence of these has not been demonstrated.

Treatment.—In the former case, dropsy in the cavity of the uterus, give full courses of medicine, taking care to warm, as thoroughly as possible, the pelvic regions in steaming, and to use freely, enemas of the relaxing kind, as lobelia, etc., to the vagina. Steam still oftener than you give emetics, and rub the surface with stimulating liniment. As the stomach is cleansed and the surface made active, you will give the alteratives to promote absorption ; and persevere in this course, with proper diet and exercise, until the uterus is reduced to its proper size ; or, if it refuses to diminish, you may make an effort to introduce, first a very small bougie, into the natural orifice ; if you succeed, follow it by a catheter, and draw off the water, when you will continue the treatment as before. But this form of uterine dropsy is very rarely seen. The most common form is that of

Hydatids.—These, as I have said, are sacs or clusters of sacs suspended from the inner walls of the uterus. They contain a watery fluid, and are so delicate and tender that they have been bursted by a fall or a fright, or the discharge of electric sparks through the region of the body where they are located. Treat the case as directed for the above.

You may use the bougie through the natural passage, and with it break some of the vesicles which, intercommunicating with others, will generally

reduce the whole. You may be some months or years in doing it, but perseverance in this course, has continually improved one patient's health and finally effected a complete cure.

GENUS 60. HYDROPS TUBALIS.—Dropsy of the Fallopian tube.

Character.—An elongated intumescence in the iliac region; spreading transversely, with obscure fluctuation.

This is of rare occurrence, and when it does exist, is to be treated in the same manner as—

GENUS 61. HYDROPS OVARII.—Dropsy of the ovaries.

Character.—Intumesence in one iliac region or both; spreading gradually over the abdomen; fluctuation obscure.

"There is the same difficulty in distinguishing this disease from pregnancy as in ascites, and consequently the same mistakes have occasionally been made. Pregnancy, when it first alters the shape of the body, produces an enlargement immediately over the pubes, which progressively ascends, and when it reaches the umbilicus, assumes a definite boundary. In ascites, the swelling of the abdomen is general, and undefined from the first. In dropsy of the ovaries, it commences laterally on one or both sides; and it is hence of the utmost importance to attend to the patient's own statement of the origin of the disease and the progressive increase of the swelling.

"It is generally movable, when the patient lies on her back; and, as the orifice of the uterus moves also with the motion of the tumor, by passing the finger up the vagina, we may obtain another distinctive symptom. When there are several cysts in the ovary, we may perceive irregularities in the external tumor."—Good. "Little thirst, urine free, catamenia irregular, or suppressed."—Doane.

The water in this form of disease, is contained in one sac or more, which distends, pushing the intestines before it, until it fills a large portion of the abdomen.

A case of it came to us last year, a Mrs. Hedges from Greenup county, Kentucky. She had been to Drs. Taliaferro and Mussey of this city. The latter tapped her, and gave directions to repeat the operation as occasion might require, intimating that she might last a year or perhaps several, in that way, but that the adhesions of the tumor were so extensive, as to render an operation extremely hazardous. Dr. T. gave her arsenic and sundry other things to take, but she grew worse and worse, and came to us. She was then scarcely able to get about. Surface dry and scaly, complexion very bilious, feet and legs edematous, catamenia suppressed, appetite very poor, bowels disordered, headache and other pains, etc. We gave her a few general courses of medicine, which cleansed the stomach, regulated the bowels, removed the edema, checked the abdominal enlargement, restored the appetite and improved the strength and spirits, for about two weeks. We then tapped her and drew away about nine quarts of water from her, when the tumor presented on the right side, in shape *somewhat* like that of the right lobe of the liver, and as large as an infant's head. We continued the courses of medicine every two or three days, the bath every day, and, at the end of five weeks, tapped her again and drew off seven quarts of water. The perspiration was now so well restored and her general health so good, that she thought she could earn her living at sewing; and she went to a house in town for that purpose. She was obliged to work and to sleep in a damp basement story. The perspiration was checked again, and she began to swell. At the expira-

tion of five weeks from the second tapping, she returned to us and we tapped her again, and drew from her about seven quarts of fluid.

She then recovered her general health pretty rapidly, so that she was able to attend patients in the Infirmary, give them courses, etc. After some time (not accurately kept), we tapped her again and drew about five quarts; she soon recovered so far that she thought she could go home and complete the cure. She left us, as she said, in "better health than she had enjoyed for three years," for her residence in Kentucky. She recovered from her dropsy, and died two years afterward of "the fever."

The general symptoms were treated as they would have been had they occurred under any other form of disease. The emenagogues used, were the warming stimulants, rattleroot, gum myrrh, etc. As hydragogues, juniper berries, mustard seed, horseradish root, cleavers, aspen bark, etc., in Holland gin. As sudorifics, compositum, sage, catnip, pleurisy root, pennyroyal, etc. Pills of the extract of boneset and butternut, with a small portion of gamboge, nervine, lobelia seed and cayenne, regulated the bowels.

Several successful operations for the removal of the ovaries in this form of disease, have been lately reported; two were performed in or near Lancaster, Pennsylvania. I am inclined to think that, with our subsequent treatment, this operation might be justifiable, in some cases, though it is probable that, in cases where the disease can not be cured without an operation, there would not be, in the system, power enough to sustain itself against the shock. See *ascites*.

THIRD SERIES.

The local engorgements—attended with discharges of blood.—Hemorrhage.

Hemorrhages, though very alarming to the patient and his friends, are, for the most part, not very dangerous, nor difficult to relieve, if unconnected with other severe forms of disease. Their proximate cause and their proper treatment, are easily understood.

Causes.—The remote cause of hemorrhage, may be whatever can, in any way, either debilitate the part, or determine the blood forcibly upon it. Thus, bleeding at the nose, may arise from irritating it, and inviting the blood to it, or from pressure of the blood from other parts to the head. Bleeding at the lungs may arise from excessive speaking, or from tubercles, or from congestion of blood in their vessels by cold or atmospheric pressure. The immediate or proximate cause, is either pressure of blood to the part, or great relaxation, or lesion of the part. The former gives rise to what is called active hemorrhage, the latter is called passive hemorrhage.

Indications.—In either form of the disease, the first indication is to equalize the circulation and nervous action, and to remove obstructions. In the active form this is all that is wanted. In the passive form, you must direct particular attention to the cleansing and toning of the organ affected.

Treatment.—To equalize the circulation, give lobelia, cayenne and nervines (say third preparation of lobelia), in small doses frequently repeated, and apply, gradually, warmth and moisture to the surface. In case the surface is very hot, water only is wanted; when it is cold, moist, and clammy, caloric should predominate. In all cases of passive hemorrhage, and in obstinate ones of active, it is necessary to administer astringents to the part affected, as well as to cleanse the general system.

GENUS 62. EPISTAXIS. Hemorrhage from the nose.

Character.—Discharge of blood from the nostrils; commonly preceded by heat in the forehead. This malady is usually confined to children and youth,

though it sometimes continues into manhood, and almost always takes place directly after inordinate heating, in warm situations or during active exercise.

Cause.—Determination of blood to the head.

The *Indications* are, to equalize the circulation, support the heat of the feet, and the functions of the surface, and to astringe and strengthen the schneiderian or nasal membrane.

Treatment.—Relieve it by snuffing up the nose a little alum water, or the decoction of bloodroot, or any of our best astringents, with cold applications to the forehead. Then give a bath to equalize the circulation, taking particular pains to heat the feet well. Rub stimulating liniments on the surface, and use daily enemas of composition and number six, and a little slippery-elm, and if the stomach is foul, give an emetic. Then follow as before, adding tonics. Attend properly to diet and exercise, and particularly to the freedom of the chest and abdomen, that the blood be not checked in its passage from the heart downward, and forced upward.

GENUS 63. HEMORRHAGIA LARYNGIS.—Bleeding from the larynx or trachea.

Character.—Spitting of blood not intimately mixed with mucus; absence of cough.

Cause.—The immediate and proximate cause is congestion of blood in the mucous membrane of the trachea. The remote, is cold, collapse of the body, or whatever can check a free and general circulation, and produce debility. The treatment should be the same as for epistaxis.

GENUS 64. HEMOPTYSIS.—Spitting of blood.

Character.—Flow of blood from the mucous membrane of the lungs, with cough; commonly preceded by pain, or pressure under the sternum; when scanty, mixed with mucus; when profuse, red and coagulating.

Causes.—Compression of the body, irritation of the mucous membrane of the lungs, by materials inhaled, or an overload of phlegm or mucus, until some of the capillaries are eaten off; tubercles, etc.

For *Indications*, see the prologue to all the genera, or general remarks on hemorrhage.

Treatment.—See the general remarks on hemorrhage. Remove all the causes; equalize the circulation; quiet the nervous agitation, give astringents to the stomach and inhale the vapor from them to the lungs. To check the discharge, give a strong tea of witch hazle, lobelia and cayenne. Lobelia quiets the general nervous agitation, and relaxes the capillary system; cayenne stimulates the heart and arteries to throw the blood to the surface and lower part of the body, while witch hazle acts on the lungs through sympathy with the stomach, or *directly*, in the form of vapor. I have often checked the hemorrhage, for a time, with a teaspoonful of common table salt, repeated if necessary. A strong tea of our astringents, as geranium maculatum, blackberry root or leaves, grapevine root, etc., will answer very well, always in conjunction with diffusive stimulants, to relax generally, while it astringes locally. Having checked the local discharge, it is generally necessary to give a few courses to equalize the circulation of the blood and the nervous fluid, and then all your efforts should be for the maintainance of that equilibrium, by keeping warm the surface and lower extremities, by enemas, the bath, and friction with stimulating liniments.

GENUS 65. HEMATEMESIS.—Hemorrhage from the stomach, vomiting of blood.

Character.—Large quantities of dark blood, flowing from the mucous

membrane of the stomach, by emesis; distress; sinking.—G. When it comes from the mucous membrane, it is generally coagulated as well as dark, and does not come up except by vomiting; sometimes it proceeds from a lesion of large vessels; then it is of brighter color, and flows more constantly, without much vomiting.

Causes.—The same causes that produce hemorrhage from the nose and lungs may produce it from the stomach. A very common cause is poisons which eat off the vessels; sometimes ulcers and cancers destroy them and set the blood at liberty.

Treatment.—The indications are given in the general remarks at the commencement of this series. So is the plan of treatment. The relaxing, stimulating and astringent medicines are to be given; the latter to be taken into the lungs. Great care must be taken to keep the surface warm and moist.

GENUS 66. HEMORRHAGIA INTESTINALIS.—Discharge of blood from the bowels.

Character.—Discharge from the liver; or from the mucous coat of the intestines, in the latter stage of typhus.

Causes.—Whatever can produce congestion of the liver or intestines, may cause an active hemorrhage. The hemorrhage from the bowels, in typhus, proceeds from the great relaxation and prostration which follow a long course of nature's efforts to remove disease. It is of the passive kind.

The *Indications* and *treatment*, in this form of hemorrhage, are the same as in the preceding. Great care must be taken to keep the surface warm and moist, and the nervous system relaxed. While you do this, your patient can not bleed to death. Sometimes it is necessary to use irritants to the surface, particularly the extremities. Astringents must be given internally, as soon as the determination to the surface is effected, and the treatment must be kept up without remission until all danger is over.

GENUS 67. HEMATURIA.—Bloody urine.

Character.—Discharge from the urethra; preceded by turgescence, pain and tension in the region of the bladder.—G.—Eberle, page 65.

Causes.—This form of disease is sometimes caused by congestion, but more commonly by irritating articles given as diuretics, as cantharides, spirit of turpentine, etc.

Treatment.—Give a common course to cleanse the system, and then emollients, as slippery-elm, comfrey, tilia, mallows, etc., to soothe the part. If the hemorrhage is obstinate, inject your best astringent teas into the urethra. Now use your alteratives, tonics and stimulants, and restore the general health. Always remembering, whether directed or not, in connection with each form of disease, to attend to diet, exercise, clothing, cheerfulness, etc., as pointed out under these several heads, among the propositions. See Index.

GENUS 68. HEMORRHOIS.—Bleeding piles.

Character.—Dropping of blood from the vessels of the rectum, preceded by heat, irritation, tension of the part, and pain extending up the back.—G.

The *Indications* are as usual, to equalize the circulation, restore the general health, and tone the relaxed vessels. The vapor-bath below the waist, and bottles of water at night, are among the best local applications for the relief of the pain in the back, heat and irritation. Use enemas of a mild and cleansing character, say lobelia and a little cayenne or ginger, then of an astringent, and lastly of a lubricating kind. Give stimulants and tonics

enough to keep a determination to the surface, and be careful to enjoin an unirritating diet, and very moderate exercise.

Some of our friends pretend to have found certain specific remedies for this form of disease. But I have not discovered that they are more successful with their nostrums, than I am with the above scientific course. They may have found some remedies more efficient than others; if so, they should be preferred, but used on the general principles above developed. Their pretended specifics are chiefly astringents.

To stop hemorrhage from wounds, compress the wounds, and elevate the part until the arteries can be tied, if necessary.

GENUS 69. MENORRHEA.—Catamenia, menses.

Character.—Discharge of a red, thin fluid from the uterus, preceded by slight uneasiness, and a sensation of heaviness in the loins; should occur every four weeks; not coagulable. Thus far it is a physiological secretion, and can not be called disease. For the rationale of this secretion, see my work on Obstetrics, page 13. But, sometimes, cold and congestion produce much pain, and either suppress it entirely, or force into it a small quantity of blood, which coagulates at the bottom of the vessel containing it. Sometimes the ordinary appearance of its return is anticipated, sometimes postponed, and sometimes a serous discharge takes the place of the natural. (Sero-cruor, Gallup.) In these latter cases, the organ concerned in its secretion is diseased.

I have said, that, when thin and reddish and not coagulable, discharged without much pain or prostration, and once in four weeks, there is no disease in the case. The quantity is not to be regarded, where the quality is healthy; the time regular, and the general health good. But, when the serous discharge takes place, it is evidence of great prostration in the system, which must be corrected by the course of treatment that cleanses and strengthens the general system. Enemas of astringents, as witch hazle, geranium maculatum, etc., should be administered to the vagina. Attention should be paid to the equality of the clothing, the want of which is one of the principal causes of this form of disease. So long as ladies dress their bodies warm, and leave their pelvis, limbs and feet almost naked, they have no right to expect any thing better than pelvic disease.

GENUS 70. HEMORRHAGIA UTERI.—Flooding.

Character.—Immoderate flow of blood from the uterus; coagulable. This may consist in an excessive flow either at the monthly periods, or just before or immediately after parturition, and is termed respectively—*menstrualis parturientis* and *puerperalis*. It may also occur any time during pregnancy, and produce abortion or premature delivery.

Causes.—It may be, an injury to the abdominal or pelvic regions, as by a blow, a fall, a fright, etc., or it may be, as very commonly, cold contracting the surface and determining the vital power to central, warm and feeble parts.

Treatment.—In case of hemorrhage caused by cold or fright, or slight injuries, treat it as directed in the general remarks, using astringent teas to the uterus, and not forgetting to keep the feet, lower limbs and surface warm. Where injuries have been received, you must treat them in the same way, but the prevention of abortion is not always effected, for it often happens that the mischief is all done at a blow, though the effect may not be seen for many days.

In cases of hemorrhage threatening abortion or premature delivery, you

should give a strong tea of witch hazle and cayenne, with a small portion of lobelia and nervine, and keep warm applications to the surface and lower extremities. If there is high fever, the surface may be bathed with cool water. If cold and clammy, warm enemas, and the bath should be used. If lobelia operates slightly as an emetic, it is well. If the stomach is foul, the patient should have a full course, and then the circulation should still be kept free.

The practice of the faculty of taking more blood for hemorrhage, and of putting ice about the body to freeze it to contractions, is the most absurd that can be conceived; and it is truly wonderful that so many people reputed wise, should have ever fallen in love with a doctrine so ruinous to health and life. It is true that some patients survive this "horrid, unwarrantable, murderous quackery;" but it is equally true that the practice deserves no credit for the cure. The repulsive and recuperative energies of the body, are sufficient to defend and preserve it against very severe aggressions from extraneous causes. It will often bear extensive hemorrhage from either design or accident; but that is no proof that hemorrhage from the lancet, is any more beneficial or proper than hemorrhage from the sword. That it is not necessary to cure hemorrhage, is well established by the fact that our practice without it, is manyfold more successful, than the poisoning system is with it. See these forms of disease in my work on Obstetrics.

No. 28.—Order III—Disease of the Serous Tissues.

DIATHESIS FERVIDA SEROSA.—*Habitus typhoides mitior. Sthenia lenis.*—Mild typhoid habit—light fever.

General Character.—The phenomena in disease of this order, exhibit a low grade of reaction, when compared with the two last. In the series of acute disease, the chills are slight, lassitude considerable: pulse small, compressible and frequent, from ninety to one hundred and twenty in a minute; the general aspect fallen, with paleness; a disposition to coldness and drowsiness; sighing. In the progress of diseased perturbation, numerous phenomena are developed, which must be learned from its extended history. The diseases of this order are so procrastinated as sometimes to be called chronic.—G.

The attentive student who will take the above symptoms and go with each to the Index of this work, and thence to the propositions where the treatment is given, will scarcely need any thing further for the treatment of the whole order; nevertheless, to give him a correct view, in the same place, of the plan of treatment for each case, I put them down in regular array with their prominent symptoms and treatment, and thus enable the reader who has little general knowledge, to treat them judiciously.

FRIST SERIES.

GENUS 71. TYPHUS MITIOR.—Typhus, nervous, or slow fever; typhoid fever.

Character.—Pains slight and wandering; chills moderate; pulse frequent, small and compressible; dull pain in the back of the head and neck; sighing; despondency of mind; lassitude; inclination to sleep. Location in the serous tissues of the brain. As the disease progresses for several weeks, the phenomena become varied, such as coma-vigil (or imperfect sleep, with frequent wakings); low, muttering delirium, diarrhea, subsultus (trembling and twitching of the muscles), furred tongue, with a brown list in the center; in fatal cases, insensibility, with hydrocephalus.—G.

Causes.—This form of disease is supposed to be produced by the action of what are called miasmata, or certain results of the decomposition of vegetable and animal matter. But one would think that this notion should have been long ago exploded, by the well known fact that the disease occurs quite as often when the temperature is much below eighty degrees, which is set as the lowest at which these miasmata can be generated, as it does at a higher temperature. I have not room here to insert the facts and arguments that lead to this conclusion, but I have no hesitation in expressing my belief that this, as well as other forms of disease attributed to miasmata, arises either from sudden changes of temperature and humidity in the atmosphere, or from corresponding changes in the conditions of the bodies under the same temperature; and that it is contagious only so far as these conditions of the atmosphere, or susceptibilities of change in the body, are common to different persons. Whatever be the cause, it is quite evident that a derangement of the circulation and nervous action, is the condition.

Indications.—To relax the system, and equalize the circulation and nervous action, and to maintain this condition steadily, until a healthy action shall be fully established.

Treatment.—Commence with the warm antispasmodic teas, as sage, catnip, balm, ginger, asarum, asclepias tuberosa, scutellaria, nervine or the like; and if the surface is hot, bathe it with soft or rain water, or weak ley, pleasantly cool to the patient. Continue the tea, with small portions of lobelia, until the pulse becomes slower and fuller, and the patient begins to feel easy. Then give a full emetic, with but little cayenne or astringents, and finish its operation with an enema or more, if one produces little effect. Now put the patient into the cot-bath, and raise the vapor on him very gradually, wetting him with cold water, if hot or oppressed. Do not raise the temperature of the bath any higher than is comfortable, but, let his head be out, and have fresh air; keep him there until the circulation seems equalized, his stomach settled, and his system easy. Let him have as much cool, not ice cold, water as he wants. If his stomach still seems unsettled, give him an emetic in the bath; watching him continually that he does not faint, which he will not do if you have observed all the preceding directions. Should he turn pale and lose sight, hearing or speech, slacken the vapor, dash cool water on his face and breast, lay his head and shoulders lower than his body, and give him fresh air to breath, and water to drink, and he will soon recover. Wash him thoroughly in the bath a few minutes after you put him in, to open the pores, and just before you take him out, to cleanse him of morbid matter. When you have no horizontal box, make one by tacking a piece of strong cloth over the sides of a box made of strong boards nailed together, seven feet long, three feet deep, and two and a half wide, and cover him with a blanket. Where you find a cot, put double sheets around its sides and ends, reaching to the floor; put him on that, covered with a blanket, and throw the vapor under it. When no such conveniences can be had, sweat him in bed with warm applications, as boiled corn or potatoes, or pieces of green wood. Keep up the use of the antispasmodic teas, to which, if the bowels are constipated, boneset and blackroot should be added, until the whole canal is free.

Watch the pulse and the surface. If the former increases in frequency and lessens in volume, and the latter becomes dry, give broken doses of lobelia, until you correct these errors. When the fever is entirely subdued, give, every hour, an even teaspoonful, to an adult, of a mixture of equal parts of cayenne and nutmeg, and return to your relaxing course, if the fever should return. If the pulse sinks and the extremities grow cold, give cayenne, and

rub it in vinegar on the surface. If the bowels are hot, and tender, put a large mush and elm poultice on them. The nervous system may be relieved by neurological operations. If the pulse continues slow and soft, and the patient is quiet when he sleeps, let him sleep as much as he pleases; otherwise, wake him and give him antispasmodic medicines.

Feed him with gruel, toast water, sweetened vinegar and water with a little bread in it—any thing that he relishes, in small quantities. Repeat the emetics, enemas and blackroot, and the bath, as often as you fail to effect your object without them. In this disease of great muscular prostration, broken doses of lobelia will bring back the action from the heart and brain and their dependents, and throw it into the muscles, which will actually confer strength on the voluntary system.

Pursue this same course of treatment, until the fever subsides, the appetite recovers, the strength returns and your patient is out of danger. If any symptoms occur that I have not here mentioned, treat them as directed for the same symptoms in other cases. For example, treat the diarrhea as directed under Genus 51, the dyspepsia as directed for gastritis or indigestion.

This form of disease often continues many, say five or six weeks, under very good treatment. Still I am very sure that, under the best treatment that can be applied, it may be cut short. The great difficulty seems to be the want of a combination, in the attendants, of the knowledge of the experienced physician, with the patience and benevolence of the highest philanthropy, and a perseverance which yields to no obstacle within human control. In the exercise of some portion of these, I have been able finally to cure all the cases of typhus and typhoid fever that I have ever treated.

GENUS 72. PLEURITIS MITIS.—Mild pleurisy.

Character.—Pains slight and persistent in the region of the thorax, increased during inspiration; fever moderate and protracted; location in the serous tissues of the thorax; liable to terminate by adhesion, or hydrothorax.

This affection is, in character, the same as that of Genera 12 and 14, that is, inflammation of the lungs or their investitures. Dr. Gallup makes those inflammation of the fibrous, this of the serous tissue; the symptoms are so nearly the same, that no doctor, however experienced, can certainly distinguish between them; and if he could, it would be of no use, as the treatment must be precisely the same. If we had some medicines that would act exclusively on the serous tissues, others on the fibrous, and yet others on the mucous, there might be some propriety in and even necessity for making the distinction in the diagnosis, and adapting the remedies accordingly. But the causes, character and indications, are the same in both, and the treatment must be the same, viz :

Equalize the circulation and nervous action, cleanse the whole system of morbid matter, and maintain the equilibrium. See the treatment for Genera 12 and 14. I have cured this form of disease in five or six hours, with a full course of medicine, and I never lost a case.

GENUS 73. PERITONITIS MITIS.—Inflammation of the peritoneum.

Character.—Pain, and tenderness of the abdomen generally, increased on pressure and an erect position; location extensive in the peritoneum covering the intestines, and lining the parietes or walls of the abdomen, liable to effusion of sero-purulent matter, or adhesion, or affusion of serum constituting ascites; when severe and long contained, it involves the muscles and fibrous tissues.—G.

Here again, as in Genus 16, is inflammation of the intestines, and eventually of even the same tissue.

The *Indications and treatment* are of course the same, namely : to equalize the circulation and nervous action, and maintain that equilibrium. The first is done by giving freely of the antispasmodic teas, cleansing the stomach and bowels with an emetic and enemas, poulticing the bowels between the baths, and giving alteratives of thoroughwort, bitterroot, blackroot, and nervine, with lobelia if the inflammation is obstinate.

Always remember that inflammation is the concentration of the available or extra vital force too much upon a small region of the body ; and that it is invited there by irritation of the part. You will then see clearly that the true indication, in all cases, is to invite this force away from that part or region, and so distribute it over the general system that it will not be excessive anywhere. This mode of relief is termed counter-irritation. The advocates of the poisoning system concentrate it in one spot in the form of a blister ; which is worse than the inflammation they wish to relieve, having in it the poisonous cantharides. We do it by inviting the action to all parts of the surface, and, of course, through all other parts of the body, by the stimulating influence of the vapor-bath ; and we aid this operation by relaxing the inflamed part itself from the inflammatory grasp through the relaxing influence of lobelia and other antispasmodics.

There is, generally, but little difficulty in producing an equilibrium of action ; the great point is to sustain it. When the inflammation is severe and extensive, the sensibility of the part is so highly exalted that the least irritation calls it back again. Further, the departure of the available force from the muscular, digestive and nutritive tissues, has left them so feeble that they are unable to sustain the action that is restored to them, without a perseverance in the use of the bath, antispasmodics, poultices, friction, etc., which gets the upper hand of the faith, patience, diligence and perseverance of too many practitioners. Let the directions for the treatment of inflammation be fully carried out in practice, in character, energy and perseverance, and the cases lost will be few and far between.

GENUS 74. ARTERITIS.—Inflammation of the interior coat of the arteries.—G.

Character.—Strong, sharp, and frequent pulsatory action of the arteries generally, but especially in certain ramifications more particularly affected ; when in the celiac artery, it offers some resemblance to an abdominal aneurism.—G.

GENUS 75. PHLEBITIS.—Inflammation of the inner coat of the veins.

Character.—Signs of irritative fever generally ; pulse frequent and irritable ; having a red list along the course of the vein ; an effusion of sero-purulent matter often found in the veins ; sometimes arising from venesection.—G.

Here we have inflammation of the arteries and veins. It is not located in a single organ, but in structures or tissues that pervade every organ. What are we to do ?

The *Indications* evidently are to check all arterial excitement and to raise the action of the nervous system. The treatment should, of course, consist in the use of those remedies and processes which are calculated to enlarge the caliber of the vessels and diminish the rapidity of the circulation. It may be commenced with lobelia and nervines, but it must be continued with relaxants of a more permanent and less nauseous character, as thoroughwort, scutellaria, bitterroot, burdock, ptelea, sarsaparilla, spikenard, or any relaxing and

permanent, yet innocent bitter nerve or emollient. The patient should live on a moderate vegetable diet, and exercise the muscular system but little. Some kind of study that fastens the attention, yet so calmly and so pleasantly as not to weary the mind, as drawing and painting, the study of botany, geology, etc., will be found the most suitable employment. The vapor-bath should be taken two or three times a week to keep the surface open and clean, and the clothing should be so disposed as to keep the surface of the whole body equally comfortable.

As the lancet and alcohol, and other medical poisons, are the most common causes of these forms of disease, they who would avoid the suffering should avoid these causes.

GENUS 76. DELIRIUM VIGILANS.—Mania a potu, delirium tremens.

Character.—Pulse moderately accelerated, sometimes more full and hard, commonly frequent and compressible; mild delirium; muscular movements feeble and tremulous, sometimes convulsive; watchfulness persistent for some time; restlessness; aspect fallen; occasional nausea and faintness; fugitive pains, mostly in the head; occurring in persons who have ordinarily made too free use of alcoholic potations.

Dr. Gallup says this disease affects first the nervous and then the serous tissue of the brain, and therefore he puts it among the diseases of the serous tissue, though others put it among those of the nervous.

Causes.—Alcohol, opium, belladonna and all other narcotics.

Indications.—To rid the system of the poison, to restore the functions of the nervous apparatus, and to persuade the patient to avoid the causes.

Treatment.—Give an emetic, enemas and a vapor-bath, sweating the patient until he ceases to smell of the alcohol. Give him alteratives and stimulants to save him from sinking, sweat him often afterward, until he is entirely clear of the poison, when nourishing food and proper exercise will complete the cure. I have had a number of bad cases of this form of disease, and found but little difficulty with the most of them, though some were so nearly burned up, that I was obliged to work fast for several weeks to save them. In one case the inside of the mouth and the top of the tongue completely shed their coat or mucous membrane. Much of the stomach and the bowels did the same. He sometimes sank so that no pulse could be felt for several seconds. It was seven weeks before he was able to work.

GENUS 77. IRRUPTIONES.—Irruptions into the serous cavities. Empyema.

Character.—These have been ascertained (by post mortem examinations) to be pretty frequent; but their characters are not yet definable; they often accompany malignant fevers, especially the exanthems (eruptives) and are attended with much distress.—G.

They consist chiefly in the discharge of abscesses from the lungs, the liver and other parts, into the internal cavities.

The **Causes** of this internal determination are any thing which checks the determination to the surface. The whole medical system of bleeding and poisoning, which destroys the vital energies and checks the egress of the caloric and moisture from the surface, tends to determine the discharge of abscesses to the warm and moist internal surfaces. Hence these forms of disease are so much more frequently found in the practice of the mineral faculty, than when no practice is adopted; and never found in the Botanic practice, where the surface is kept warm and open.

Indications.—To cleanse the whole system and keep up the determination to the surface.

Treatment.—It is a law of the human economy, that all morbid matter in the system, is determined toward the surfaces, by the propelling power of the heart and arteries; and, as warmth and moisture expand all animal bodies, and increase the caliber of the vessels, it follows of course that this matter will be determined to those surfaces from which it can the most readily escape. Hence it is, that when the outer surface is closed by cold and inaction, abscesses and serous exudations are determined to the internal cavities. The poisoning and bleeding system, by diminishing vitality, closes the external surface even to perspirable matter, which then is discharged into the internal cavities or the cellular tissue, constituting the various forms of dropsy. Whoever heard of a disease treated on the heating and sweating plan, terminating in dropsy, unless that dropsy had commenced before the treatment? I have seen, in my treatment, both internal abscesses and many cases of dropsy, but they had full possession before I was called, and I have cured them both, by the treatment I have recommended. You may do the same when there is life enough in the patient to build upon. The seat of the fixed pains in these cases, should be treated with stimulating poultices and plasters.

SECOND SERIES.

Serous effusions into cavities not having apertures.

GENUS 78. ANASARCA.—Hydrops cellularis. Dropsy in the flesh or cellular tissues.

Character.—Accumulations of serosity in the serous cells of the cellular tissue universally; especially in the lower extremities; obscurely diaphanous; pitting on pressure; scantiness of urine; frequent pulse; dyspncea; inability to exercise, especially in ascending heights.—G.

Causes.—The proximate cause is a check to the perspiration; the remote cause may be any thing that can debilitate the system. See remarks on the last Genus.

Dr. Eberle says: "Local anasarca may be produced by whatever impedes the return of the blood from a part; as indurated glands pressing on the large veins, ligatures, etc., (corsets). It arises from mere general debility, disease of the heart, phthisis, etc.

"General anasarca, may result from hemorrhages [after the lancet!], diarrhea, diabetes, and other circumstances that rapidly exhaust the system. *Sudden suppression of perspiration, particularly after scarlatina, measles, or while under the influence of mercury, is a frequent cause of anasarca. It may result from the internal use of arsenic—from torpor of the kidneys, from amenorrhœa, chronic disease,"* etc.—G.

I have no doubt of the truth of the above statements, and therefore would advise people, to beware how they employ the *regulars* to cure their *synochas* with the lancet, their scarlet fever and measles with mercury, their agues with arsenic, their constipations with physic, their disuria with cantharides, and all the rest of their "diseases" with "whatever rapidly exhausts the system," which all poisons invariably do.

Indications.—To warm and relax the surface and to promote perspiration.

Treatment.—Whatever checks perspiration, stops the egress of morbid matter from the system, and, of course, determines it upon the internal surfaces. Hence, in all cases of dropsy, the stomach and the bowels are loaded with phlegm and canker, which must be removed by a full course of medicine. Then the surface must be kept warm by frequent baths, warm clothing, and friction with stimulants, of which the third preparation of lobelia is

among the best. Hydragogue cathartics, as arrowroot, bitterroot, and gamboge; and diuretics, as poplar bark, juniper berries, horseradish, mustard, etc., may be used to advantage, if connected with the vapor-bath, and diffusive stimulants, as cayenne and peppermint or caraway, to keep up, at the same time, the perspiration, which must not be stopped for any consideration.

A mat of raw flax wrapped around the limbs and feet, will produce a very free discharge of the water. It may be washed and used again, any number of times.

GENUS 79. HYDROPS DARTI.—Dropsy of the scrotum.

Character.—Soft, edematous tumefaction of the cellular tunic of the scrotum; often large and obliterating the penis; imperfectly diaphanous (transparent).—Dunglison, 451.

Causes.—Cold, injuries, and whatever in any way obstructs the circulation.

Indications.—To restore the general health. Steam often, and apply poultices to the part, in the intervals, until the water is all removed. The poultices should be relaxing and slightly stimulating. Warm applications to the part at night, consisting of fomentations of bitter herbs, such as wormwood, tansy, motherwort, hoarhound, etc., bruised, wet with hot water, and laid on. They should be renewed as often as every six hours. If there is much water in the tissue, it is well to puncture it, and then treat as above.

GENUS 80. EDEMA.—Hydrops cellularis artuum. Dropsy of the cellular tissue of the joints.

Character.—Intumesence of the cellular tissue of a part, often the joint; more commonly of the feet, in which instance it is increased by an erect position; pitting on pressure.—G.

This Genus is the same as 78, only more limited in extent. It requires the same treatment.

GENUS 81. HYDROCEPHALUS.—Hydrops capitis. Dropsy in the brain.

Character.—Headache; synchoid or typhoid fever, followed by squinting; torpidity of the body and intellect; dilated pupils; enlarged skull, open sutures, coma.

Causes.—Determination of blood to the brain, producing inflammation and an effusion of serum into the ventricles.

Indications.—To equalize the circulation, promote absorption and tone the general system.

Prognosis.—This form of disease is always dangerous; because it has its seat, from the beginning, in the governing organ of the body. When the brain is oppressed by an accumulation of water in its ventricles, it is rendered incapable of performing the offices of stimulating the general system so as to aid us in removing the water; as it is only by promoting a free action of the other organs of the body, that we can remove this accumulation. All the organs partaking of this cerebral paralysis, the prospect of cure is rather faint. The plan of treatment, however, that I have found most successful, is to warm and stimulate the lower extremities and surface, by the use of the bath, enemas and frictions, and to keep up this action, cooling the head to a comfortable temperature, and cleansing the stomach, as the symptoms may require.

In the first stage of this form of disease, that is, when there is but a moderate accumulation of water, it will probably be relieved by the above treatment. When the accumulation becomes so great as to separate the sutures,

the paralysis will be so complete as to leave little to hope from the action of medicine. Still it should be tried. When all other means fail to relieve, pierce with a trochar, the skin and dura mater, the coverings of the brain, and let the water out. It may be done on either side of the falk cerebri, near the coronal fontanelle, without much danger, and will give immediate relief; and, if the patient is afterward treated according to our system, the prospect of recovery is good. I have seen one case thus treated. I tapped it once, and drew off nearly a pint of water. Its father, a physician, tapped it afterward, and I believe it yet lives. The regular practice affords no relief, the tapping is, therefore, worthy of trial.

GENUS 82. HYDROBACHIS, HYDROPS SPINALIS.—Spina bifida, dropsey of the spine.

Character.—Collection of serous fluid in the spinal column; tumor commonly on the loins from a deficiency of the vertebrae; fluctuating and diminished on pressure, inducing lethargic symptoms; congenital.—G.

This form of dropsey is next in dangerous tendency and difficulty of cure, to dropsey of the brain. It destroys the action of the nerves there, and consequently throughout the lower limbs.

The *Indications* are, to invite the action to the surface, to produce general relaxation and promote absorption, until the tumor is removed, and then to tone the general system.

Treatment.—Give courses of medicine to cleanse the general system, and alteratives to promote absorption. Use the vapor-bath and friction with stimulants. Let the diet be solid, vegetable, and moderate in quantity. A poultice laid over the tumor will do no harm, and it may aid absorption in some degree. But, for the reasons advanced under hydrocephalus, the prognosis is unfavorable. I should tap the tumor after all other means had failed, without, however, much expectation of final success; though I should not fear destruction from the operation.

GENUS 83. HYDROPTHALMIA STAPHYLOMA.—Dropsey of the eye.

Character.—Ball of the eye enlarged, especially the cornea, vision obscured or destroyed. See Dunglison, 453-4.

Causes.—The cause is probably irritation of the eye, connected with a check to the perspiration and other depurations.

Prognosis.—This being an organ not indispensable to life, there is a better prospect of a cure by a judicious course of treatment.

Indications the same as for all other forms of dropsey, with a more particular attention to the part affected.

Treatment.—In addition to the courses mentioned above, and the free and continued use of alteratives and antispasmodics, the eye should be kept poulticed with pond lily, slippery-elm, and the like. When all the inflammatory symptoms are subdued, tonics may be given. The eye should be excluded from the light, and the diet should be spare and nutritious. Enemas of a stimulating character should be used three or four times a day, also the external surface of the lower body and limbs, should be rubbed with stimulating liniments, which will act as counter-irritants to withdraw the inflammatory action from the eye, and set the absorbents at liberty. The water may be removed by piercing the cornea, near its junction with the sclerotica; then continue the same course as above. I have treated several cases marked by the above symptoms, and all with success; some of them had been long under the regular administrations without the least amendment.

GENUS 84. HYDROTHORAX.—Dropsy in the chest.

Character.—Dyspncea, increased by exercise and a horizontal position, countenance sub-livid; urine red and scanty; sudden starting from sleep, with a sensation of suffocation; edema of the lower extremities. When extensive, an elevation and distension of the affected side, and difficulty of lying on the opposite side.—G.

Causes.—The same causes which produce dropsy generally, may produce it in the chest. These are any thing which obstructs perspiration, as cold, irritation in the internal canal, blood-letting, poisonous drugs, etc.

Indications.—To remove obstructions and stimulate the surface to a healthy action—tapping.

Treatment.—A few courses of medicine, using no astringent articles; say a tea of catnip and cayenne, instead of composition. Perspiration should not be checked after the bath, and lobelia, boneset and other antispasmodics should be given after the course, in quantities sufficient to keep the system relaxed, and the absorbents active. The urine should be kept free by the use of a tea of elder bark, juniper berries, mustard seed, horseradish root, parsley root, poplar bark, asparagus roots, watermelon seeds, cleavers—any innocent and efficacious diuretics. In the intervals between the courses, which need not be very frequent, give laxative bitters and cayenne, but no astringents.

If the general health improves and the difficulty of breathing abates, persevere, and you will probably succeed. If you can not reduce the quantity of fluid by these means, it is probable that some organic disease of the chest is present, which will prevent success at all. But there will be no harm in tapping, and letting out the fluid; and then, if the organs are not much diseased, your course of determination to the surface and exciting it to action, will be successful. Tapping is rarely performed by surgeons, not because there is danger in the operation, but because the disease is, by them, deemed incurable, after the temporary relief is given. The accumulation of the fluid "is the result of disease in the thoracic viscera, as the heart or lungs, and the cause remains after the effect is removed."—Castle's *Man.*, abridged.

"Paracentesis thoracis, though unsuccessful for serous fluids, is not always so when matter has accumulated in the chest. The marks of the accumulation of pus in the chest, are, considerable pain in the side, severe fever and constitutional irritation, cough with difficulty of breathing, inability to lie, except on the side in which the matter is accumulating, and lastly, considerable enlargement of the chest on that side, the ribs being unable to descend in expiration, in consequence of the accumulation of fluid."—lb.

Operation.—"When the presence of matter in the chest is fully established, draw the skin as much as possible upward, and cut down, with your scalpel, on the upper edge of the eighth or ninth rib. Having cut only through the intercosal muscles, pass the trochar and canula through the pleura, and it enters the chest. The matter escapes as soon as you withdraw the trochar; after which, draw the skin down and the wound will close without the danger of any inflammation further than the adhesive."—Abridg. from Castle's *Man.*, page 316.

I have here presented Sir Astley Cooper's method of tapping for pus, because it is just as good in dropsy, for which he seldom operates, for reasons above stated. It is probable that a majority of the cases which can not be cured without tapping, can not be cured with it. But, as it is possible that some may be cured with, that can not be without it, and, as the operation itself is not dangerous, it may be tried after medicine fails.

GENUS 85. HYDROPS PERICARDII.—Dropsy of the pericardium or heart case.

Character.—Oppression and distress in the precordial region; vibratory motion in the action of the heart; perceived externally; sometimes palpitation.

Causes.—Same as for Hydrothorax.

Indications.—To equalize the circulation—maintain a free action of the surface, lungs, kidneys and bowels, and to restore energy to the whole system.

Treatment.—A full course or two of medicine with stimulating and relaxing, but no astringent articles, followed by a steady use of the best relaxing alternatives, frictions of the surface with relaxants and stimulants, as tincture of lobelia and cayenne; a moderate diet of wholesome food, and gentle exercise, in free, fresh air; avoiding all sudden excitements. Keep the feet warm, the head cool, and the bowels and surface open.

GENUS 86. ASCITES.—Hydrops abdominis. Dropsy of the abdomen.

Character.—Intumescence (swelling) of the whole abdomen, uniform and compressible; fluctuation on percussion; thirst; frequent pulse; scanty urine.—G. The abdomen is very elastic. If you press on one side, you feel no solid body, all gives way and the other side proportionately enlarges.

Causes.—The same as for hydrothorax; the only difference is, that, from circumstances predisposing, the fluid is determined upon the peritoneum instead of the pleura.

Treatment.—This is the most common of all the forms of encysted dropsy, and the method of treatment will serve as a sample for that of the others. It will be the same as that for hydrothorax and ovarian dropsy, except the operation. This is simple and safe, and should always be performed where there is any considerable accumulation of fluid, as it is the easiest method, even to the patient, of getting rid of the burden, while it produces that relaxation of the peritoneum which is so favorable, so indispensable, to absorption and the relief of the general system. Before performing the operation, the patient should have a course or two of medicine, several vapor-baths, and friction with tincture of cayenne and lobelia, over the surface, all occupying two to five days, the feet being kept warm and the bowels free.

Tapping.—Provide yourself with a good thumb lancet, a common sized trochar, and a vial of sweet oil, a graded vessel, quart or pint, to catch the fluid in, and a larger one to pour it into. Have also a strong bandage, long enough to go twice around the body, and some twelve to fifteen inches wide. Seat the patient in an arm chair, or one with high back, and rockers if convenient. Remove the dress from the abdomen, upward and downward, so as to expose it from the pit of the stomach to the pubic bones. Apply the middle of your bandage to the naked body, the lower edge on the pubes, and the center pierced so as to exhibit an inch of the linea alba, on the line from the navel to the pubes, its ends divided fifteen inches into six or eight strips, and alternated with each other behind the patient. Place an assistant behind the patient, with his hands hold of the ends of the bandage, for the purpose of drawing it closely around the body as the water is discharged. Elevate the back of the chair so that the patient will lean a little forward and fasten it in that position. This throws the water forward, and protects the viscera. Provide a basin of cold water and a towel; also some water to drink, an ivory or bone stillet, or a common probe, and you are ready for the operation. Stand at the right side of the patient (or the left side if you are left-handed), direct another assistant to press the sides of the abdomen steadily and firmly with his hands, during the operation. Dip your lancet into the oil, take it firmly between the thumb and finger, as you would a pen, one

third to a half an inch from the point, and thrust it *suddenly* to your thumb and finger, into the parietes, just two inches below the navel. Withdraw it, take your trochar, dip it in the oil and insert it, with the canula, into the wound, and thrust it in, *gradually*, until you feel that it meets but little resistance. Push the canula in an inch, hold it, and withdraw the trochar. The fluid will flow freely for some time. As it slackens, the assistant may draw the bandage a little. Another may hold the canula while the surgeon manipulates, on the abdomen, in different ways, to bring all the fluid out. The smooth ivory or bone stilet or a large knitting needle, or the round end of a common silver probe should be introduced into the canula, when the fluid ceases to be discharged, to remove the omentum or the intestine that may have fallen against the end of the instrument. The last fluid that passes is usually turbid.

If the patient should feel faint during the discharge, wet his face and breast with cold water, and give him some to drink; also draw the bandage tighter. If this fail to relieve, take hold of the back of the chair and depress it until the head is lower than the body; and sprinkle cold water on the face and breast, and give some to him to drink.

You need not bind up the wound (unless something protrudes from it, which will never be the case, if you mind all the above directions), but let the water flow as long as it will, absorbing it into cloths. Now let the patient lie down and rest until he is refreshed, after which, give him the vapor-bath, horizontally if he is unable to sit up.

After the water is drawn off, the greatest care should be taken to keep the surface warm and open, and the lungs, kidneys and bowels in proper order. For the surface, take the bath often, with the feet in hot water, and rub afterward with stimulating liniment. For the kidneys see the diuretics mentioned after ovarian dropsey; also the general classification at the close of the practice. For the lungs, give alterative doses of lobelia, skullcap and boneset. In bad cases, you will be obliged to tap the patient several times, but this should not discourage you. Let your intermediate treatment be judicious and vigorous, and you will generally succeed.

Sometimes the fluid in the abdomen is contained in sacs clustered together like grapes; and this form is called *hydatidous*. The intumescence is inelastic, and destitute of undulatory motion. The general treatment is the same; but the tapping is not so effectual, as it is impossible to pierce all the sacs, and there is little or no direct communication between them.

GEXUS 87. HYDROCELE—HYDROPS SCROTI VAGINALIS.—Dropsy of the tunic of the testes.

Character.—Heavy, inelastic tumor of one section or both, of the vaginal (internal) tunic of the scrotum; diaphanous (translucid); the spermatic process distinguishable; not diminished by pressure.—G.

This form of disease presents a considerable variety of character; in fact, though I have seen many cases of it, no two have been in all respects exactly alike.

The *Treatment*, however, in general, is upon the same plan as for other forms, except that, in this case, the part can be easily steamed and poulticed, constantly, and the operation is simple and safe. The same instruments are to be provided, unless a sharp pointed bistoury be substituted for the lancet, and I have not always used the trochar and canula at all, though it is safer, as it prevents the fluid from passing into the cellular tissue, and from being obstructed in its passage outward. The chief caution necessary is to be sure

that you are in the right cavity, and that you do not wound the testis. To be sure that you are in the right cavity, search for the median line and tap at least a half inch from it, on the side of the tumor. Grasp, with the left hand the upper part of the tumor, so as to prevent the fluids from rising. In this state, the fear of the patient that you will wound the testis, will cause him to retract it as much as he can, and, thus there is little danger in the operation. I tapped a particular case a great many times, and I believe it is now well—I hear no complaint of it. See remarks on Genus 78, also 77.

General Remarks.—It is proper to promote the free action of the surface, lungs, bowels and urine (see remarks on the several outlets to the body); but, in promoting one secretion, be cautious not to repress any other. For example, when you give physic, be careful to give with it some diffusive stimulant, as boneset, and the various mints, to diffuse to the surface.

No. 29.—Order IV.

The character of the common morbid habit may be modified—

Fourthly.—As the disease may be located in several or all the thin tissues, and the parenchyma of organs, and attended with severe, unequal and perturbed association of actions.—G.

DIATHESIS FERVIDA COMPLEXA.—*Habitus typhoides gravior—ataxia et adynamia.*

General Character.—This order embraces the most severe and complicated forms of acute disease. The causes act collectively, on highly predisposed habits. Severe impressions are made on all the system of the nutritive tissues, and immediately affecting the nerves of external relation, perverting their functions, some functions being diminished while others are increased. Great disproportion in the phenomena, and liability to change. The functions of the heart, arteries and brain are liable to severe depressions, followed by excess, and perturbation of action; or suffering a quietus in death, soon after the attack. Many of the phenomena developed from the suffering of the organs of external and internal relation [the sensitive, motive, and sympathetic nerves], are mutable, while the organs themselves are undergoing important pathological changes. Early in the disease or first stage, the blood appears to be highly carbonized [dark colored], and there is great prostration of muscular and of vital action. In the second stage, if recovering, the blood appears more florid, and if the circulation and nervous action become more free, the fever abates, and approaches the synochoid. The organs chiefly impressed, are often despoiled of their functions, and liable to gangrene, hepaticization or erysipelatoïdes.—G.

You will here remark that, after speaking of disease in its simple forms, and describing the specific affections of the separate tissues, arising from different causes, and of course, according to regular logic, requiring different means and modes of treatment, Professor Gallup (from whom, as I have said before, I take this nosology), has fallen upon a case in which *many* causes have affected *all* the tissues, producing a complication of excesses and depressions of action.

Remarks.—“The diathesis is both severe and complicated.” The fever is severe typhus, great vital effort, opposed by greater morbid depression. Derangement of action and deficiency of strength (*ataxia et adynamia*).

Now what is to be done? Is it not evident, that whatever practice will regulate this action and restore strength to all the organs affected, will cure, not only this complex form of disease, but all the simplest of which it is

composed? But the doctrine of the schools is, that disease is not one but many; that what will cure one form will injure another; that the different tissues must be differently treated, or ruin to the whole will be the result; and this doctrine brings them inevitably to the conclusion, that they can not remove one symptom of a complicated form of disease, without producing affections often worse than those they would remove. Let us examine this more closely, in connection with the above definition of the general character of this order.

"This order embraces the most severe and complicated forms of acute disease. The causes act collectively, and the fever is the most severely oppressed."

If so, it wants the most powerful and complicated remedies to cure it. But the schools say you must not bleed here—"the loss of a few ounces of blood may be equivalent to a sentence of death." You must not give opium, for the nervous system is already about to yield to the combination of depressing causes. The very "*magnus dei donum*" fails here. It will not do to give calomel, because there is already a severe "tendency to gangrene, hepatication, erysipelas," etc., which mercury highly favors. What will you do? A highly inflammatory case, and yet you must not use the lancet, "the great agent for the cure of inflammation." Here is the greatest derangement of function, connected with the severest inflammation, and yet the great "regulator of all the secretions," "the great anti-inflammatory, anti-febrile alterant," of the *materia medica*, can not be given. There is great depression of the vital powers, and the severest medicine is much needed; but, say allopathists, "the most active poisons are the best medicines" (Hooper, Barton), and "*all poisons diminish vitality*" (B. M. and S. J., vol. ix, page 43), of course none of them can be given in this case, except at the hazard of supplying the little balance of power, which the "usurped control of the inherent tendency of organized bodies to change their forms," requires in the present case, to destroy the patient. Again I ask, what can the doctors do? Their hands are tied by *their system*, except to do mischief. Is it any wonder that they lose so many of their typhoid cases? Is it not a wonder that they do not kill all to whom they administer their poisons? The only reason why they do not, is because they do not supply quite all the balance of "morbid impression" that is necessary to overcome the conservative power of the system. But let us examine further.

"The causes act collectively."

Very well. If these causes are different, and produce different results, then the "remedies" that suit some may be incompatible with others; and, of course, it is dangerous to give any.

They act "on highly predisposed habits."

Well, if the habits are predisposed to disease, it will not be very judicious to attempt their removal by means that tend as much as they do to the same result.

"Severe impressions are made on all the system of the nutritive tissues."

Then it will not do to take away the blood, in which nearly all the nutritive power is contained.

"And immediately affecting the nerves of external relation [the motive and sensitive], perverting their functions."

Then it will not do to pervert their functions still more, with opium and other sedatives.

"Some functions may suffer a paresis [be depressed], while others have an excess of action."

"If, then, you give medicine calculated to stimulate the depressed, they will increase the excitement; if you give others to repress the excitement, they will destroy all the action of those organs which are oppressed. What will you do ?

"Let him alone, and nature may cure him."

Indeed ! Let him alone when he most needs your services !

But if nature can cure such bad and complicated cases, can she not cure the milder and more simple, and would it not be better to trust her altogether ? and, if so, what is the use of a doctor ?

Why, surely, nature can not always obtain the means she wants, nor apply the proper processes. The use of a doctor is to detect her condition and wants, and bring to her the means of cure.

Very well. Is it then his duty to bring to her the means of disease and death ? blood-letting and poisons ?

There is "great disproportion in the phenomena, and liability to change."

Then the treatment should equalize the action, not destroy it ; for it seems that there is action enough somewhere, but not properly distributed. Means that tend to destroy any part of the action, can not be suitable to relieve the diseased organs, however effectual to depress the excited and over acting.

"The functions of the heart, arteries and brain, are liable to severe depressions, followed by excess and perturbation of action, or suffer a quietus in death soon after the attack."

Well, do not venesection and narcotics, physic and other means of depletion greatly depress the action of the heart and arteries ? Will not every application of such enemies to life, rouse the conservative powers of the system to excess ? Will not this partial action produce perturbation, and, if unsuccessful, be soon overcome by the causes of disease and the destructive agents of the faculty ?

"Many of the phenomena developed by the nerves of sensation and motion, and of the sympathetic system, are changeable, while the organs themselves are steadily undergoing pathological changes."

Then it must be the height of folly to undertake to raise and depress action, according to these accidental mutations in the symptoms, as such a course can result in nothing else than the necessity, as Mackintosh says, of "giving stimulants at night, to restore the power wantonly wasted by depletion in the morning." Happy would it be for the patient, if these means were sufficient to correct the error, and avert destruction.

"Early in the disease, or first stage, the blood appears highly carbonized."

Of course, it is but poorly qualified to sustain life at the best, what will be the result if you draw away one third or any part of it ?

There is "great prostration of muscular and vital action."

Does bleeding tend to increase muscular and vital action ? If so, why do you do it to relax muscles and enable you to set bones ? or to destroy the vitality of animals for the market ?

"In the second stage, the blood shows a floridity in the more prosperous cases"—that is, where the circulation has become more free, and the blood is better oxydized in the lungs ; but how can this be done if you draw it out of the body ?

"And if the responding actions [the circulating and nervous] become free, the diathesis makes an approximation to the character of the synochoid."

How can these actions become free, if you destroy or derange them with blood-letting and poisons ? and how will the efforts of the system to relieve itself of its enemies, be relaxed by the appearance of new recruits, so long as

it has power to resist at all? How can the fever become synochoid if you destroy the energy of the heart and the arteries, by depletion.

"The organs chiefly impressed, are often despoiled of their functions, and liable to gangrene, hepatization or erysipeloides."

These then, are evidently cases of accidental idiosyncracy, in which the use of mercury is the most "horrid, unwarrantable, murderous quackery," as the natural tendency of that article is to produce gangrene, glandular indurations, eruptions, ulcers, and almost every form of disorganization. Blood-letting favors the determination of "the brunt of its action to internal vital organs," and opium and all other poisons, deprive the system of the power to make any efficient effort to defend itself against the injuries threatened by these destructive agents. Therefore, the fashionable practice of medicine, is more to be dreaded and avoided, than the most complicated and severest form of disease to which the human family are subject. I am sorry, for the honor of the intelligence of my species, to come to this conclusion; but, upon the testimony of the most credible witnesses (its own best friends), and the severest logic that can be applied to it, there is no avoiding this inference.

The question then recurs, what is to be done? I answer, here is a complication of symptoms of depression of vital energy, produced by a variety of causes. The state of the system resembles that of a man who should be held to the ground by the hands of many different persons, applied to different parts of his body. If, by severe effort of his right arm, he frees it from its oppression and uses it with more than ordinary dexterity to aid the left and the feet in their yet fruitless efforts to get rid of their burden, I do not think it judicious to paralyze by a blow, that arm, to prevent the struggle; but to aid the rest of the limbs in removing their oppression until all is free; when, the right arm having no more to do, will be as quiet as the others.

So of the sick man, with symptoms of typhus. I would consider the active symptoms vital indications of the sufferings of the oppressed organs, and go to work with means and processes calculated, not to oppress any, but to remove from all, every cause of oppression and disease to which they are subject. This is the only rational mode of curing the sick. Let us now apply it to the forms of disease of this fourth or complicated order, not forgetting that it is equally applicable to the elements of the composition.

FIRST SERIES.

GENUS 88. TYPHUS GRAVIOR.—Severe typhus. Jail, camp, hospital or putrid fever.

Character.—Rigor and heat alternating, little or no perspiration; pulse tense and hard, usually quick but fluctuating; pain over the forehead and crown; urine alternating from limpid to turbid; delirium, succeeded by stupor; signs of putrescence.—Dr. Good.

Indications.—The above symptoms show a deficiency of caloric, water and nervous fluid; a derangement of what there is, and too much tension in the vascular, nutritive, nervous and secretive apparatuses; and they indicate the propriety of producing a general relaxation of the system, of supplying it with caloric and water, of promoting the secretions and neutralizing the putrescent effects of the effete or other morbid matter.

The *Causes* of this form of disease have not been very satisfactorily ascertained. They have been supposed to be various, as cold, aided by physical predisposition, or vicissitudes of heat and cold, moisture and drought; or miasma, etc. But the knowledge of these, though desirable, is not indispensable to the cure.

Treatment.—The first effort should be to distribute the nosodynamia, or morbid tonicity of the nervous and vascular systems, which is to be done by antispasmodic and stimulating means, as a weak, warm tea of lobelia, boneset, skullcap, catnip, spearmint, balm, etc., and by sponging the surface if hot, or by the vapor-bath if cold. When, by these means, you get the pulse pretty full, soft and slow, give a full course of medicine, using no astringents, but the antispasmodics, and only so much stimulus as to prevent the pulse from sinking too low, with relaxing enemas to the bowels, warmth to the feet, and cool water to the head, but in no case making it uncomfortably cool by this means. Give fluids freely to drink, and let some of them be of the diuretic character. Oppose every error. As soon as the fever is fairly broken, and the circulation equalized, give a tonic consisting of cayenne and the best bitter you can get, say boneset tea, strong and cold. Or, if you can get it, give, in a little water, every hour for six or eight times, a quarter of a teaspoonful of a powder, made of equal quantities by measure of cayenne and nutmeg. If this keeps off the fever and restores the appetite, very well; feed the patient with light diet (see food), give him cold boneset tea, aided with blackroot if necessary, to keep the bowels also free. Keep the body warm and slightly moist, and let him exercise a little if he can. The pain in the head, delirium and stupor will all cease on the equalization of the circulation and nervous action. Composition may be given after the fever is gone, to keep up a healthy action, remove canker, prevent relapse, etc.

Aid the stimulants in preserving the system from putrescence, by the use of acidulous stimulants and resinous drinks, and the bath, but use no astringents until the fever has subsided, and the appetite and strength begin to improve, when a little weak tea of bayberry, sumach, etc., may be given. If, at any time, the fever begins to rise, give lobelia pills, in small doses, every hour, night and day, until it yields, and at more distant intervals until it is entirely subdued and the appetite has returned. It is all important to watch the patient constantly, and check the first tendency to relapse, which a small cup of antispasmodic and stimulating tea will generally do, if given in season. Should you find it difficult to cleanse the bowels by enemas, give blackroot tea, strong, or some cathartic pill or powder. Let the baths be often repeated, and the emetics as often as it is necessary to break the severe paroxysms. Nothing else is like the full influence of lobelia, to break the severest form of tissual tension.

If the stomach does not settle, give enemas and the bath. If this fails, give more lobelia and vomit him; then enemas and the bath again. If any other symptom arises, treat it as directed in other places. See index of symptoms.

GENUS 89. PESTIS ORIENTALIS.—Eastern plague.

Character.—Fever, typhoid; externally, buboes, carbuncles, vibices or vesicular erythema.—G. A very knotty, ulcerous, eruptive and offensive state of the surface.

Causes.—Probably retained recrementitious matter, acting on a debilitated constitution under some relaxing or paralyzing, extraneous influence; uncleanness. Whatever be the cause, it is very evident, from the symptoms, that nature is endeavoring to drive it out of her domain through the surface; therefore,

The *Indications* are, to relax the surface and stimulate the general secreting organs, until the system is cleansed, and then to tone the whole.

Treatment.—In the early stage of the disease, when the fever is high, begin with an emetic and an enema of lobelia, etc., and then follow with the bath

and sudorifics and alteratives. When the surface is sore, use the bath and an alkaline wash often, and give alteratives, that is, such articles as boneset, bitterroot, burdock, sarsaparilla, spikenard, balmony, blackroot, etc., combining these so as to keep the bowels just clear, not too active. If the fever rises, give lobelia pills or lozenges every half hour, until you break it. Then continue your alterative course as before. If the fever is high, use no cayenne; if the pulse sinks in volume and frequency, or loses its beats now and then, give a tea of boneset and skullcap with a little cayenne. Let the clothing be changed and the beds aired very often, and let the patient's room be well ventilated and frequently purified by the evaporation of water from chloride of soda or chloride of lime, or of sulphate of iron or of zinc. Let the food be vegetable and moderate in quantity. The farinaceous grains are the best. Fruits of the rosaceous tribe as apples, pears, quinces, plums, cherries, peaches, etc., are good.

I may remark, here as well as anywhere, that, in the treatment of all the putrid forms of disease, it is necessary to give stimulants, relaxants and anti-septics, such as sage, catnip, balm, pennyroyal, with laxative bitters, as boneset, bitterroot and gum myrrh; and, as soon as the fever subsides, astringents, which contain some relaxing power, as sumach; or pure astringents combined with relaxants, as bayberry and bitterroot, or blackroot, will be excellent. The object is not to relax nor to astringe the *living* fiber, but to condense the phlegm and neutralize or tan the *effete animal* substances, and thus render them harmless, until they can be ejected from the body, which should be done as fast as the natural operations can be made to do it.

GENUS 90. TYPHUS ICTERODES.—Yellow fever.

Character.—Fever typhoid; local determination to the stomach and liver, occasionally yellowness of the skin and black vomit.

Causes.—Sudden vicissitudes of temperature and humidity, particularly in warm climates where there is much moisture and the heat of the sun and evaporation great during the day. The sudden transition from the heat of the sun to the cool, damp, descending dews or brisk breezes of evening, is the principal cause of all the epidemic fevers, especially the intermittent, the bilious, and the yellow or icterode. The loss of superficial heat produces a determination to the stomach and congests it so much as to force blood into it from the small vessels. This blood coagulates or mingles with the ingesta or food, which, when thrown up, appears black, and in small crumbs like coffee grounds.

Again, the same cause produces determination to the liver, and stops the absorption into the ducts of the bile, which is therefore thrown to the surface and produces a yellow tinge. The lungs, the diaphragm and the heart also partake of the congestion. These considerations lead us at once to the true

Indications, which are, to relax and stimulate the surface, and to relax only, the internal man until the congestion is removed, then give courses of medicine until the system is cleansed, and then alterants and tonics until the patient is well.

Treatment.—If the surface is hot, sponge it with cool water; if cool, put the patient into a horizontal bath, and apply the vapor very gradually. In either case, give a weak tea of boneset, skullcap, catnip, sage or balm, and an enema of the same, before and during the use of the bath. If these teas are rejected, give weak lobelia tea, in small quantities and frequently repeated until it stays on the stomach; then give the others again. Spearmint and cypripedium are also good. If the pulse sinks very low, sustain it with a

little cayenne or ginger; but continue to give the antispasmodics until you have produced an equilibrium of circulation and nervous action, when you should give a full course, and follow it up steadily with alteratives and broken doses of lobelia, sufficient to prevent the rising of the fever, if possible; when it is not possible, repeat the course with antispasmodics, lobelia and a little number six, or cayenne, with a small quantity of astringents, to counteract the tendency to putrescence. Give the emetics as often as it is necessary to cleanse the stomach which will depend entirely on the steadiness and efficiency of your intermediate treatment. The bath should be given always once a day, and, in bad cases twice. The patient should be lifted into it, well washed while there, and lifted out of it again, horizontally, if he is inclined to faint. The feet must be kept warm and the surface moist. Sponge it if dry and hot, wipe often the face, neck and breast with a towel, if they sweat freely while the lower body is dry. Rub also often the lower body and limbs with third preparation or other stimulating liniment. Give the patient food when you can persuade him to take it, and of that kind which he most craves. Fruits and vegetables will be most likely to agree with him. Water acidulated with vinegar or lemon, or the juice of apples, pears or peaches, stewed in water, is good for drink. Keep him pleasantly cool.

GENUS 91. CYNANCHE MALIGNA.—Malignant quinsy, or putrid sore throat.

Character.—Inflammation of the fauces, terminating in ash-colored sloughs, followed by ichorous discharges, often an efflorescence [eruption] or petechiae [purple patches] on the skin.—G.

"It is characterized by crimson redness of the mucous membrane of the fauces and tonsils; ulcerations, covered with mucus, and spreading sloughs, of an ash or whitish hue; the accompanying fever typhus. It is often epidemic, and generally contagious; and is frequently found accompanying scarlet fever—giving rise to the variety, *Scarlatina maligna*."—Dunglison's Med. Dic., page 263.

Causes.—Cold affecting a predisposition; exposure of the throat to cold air, after talking long in an open room.

Indications.—To equalize the circulation, relax and stimulate the affected part, and prevent mortification.

Treatment.—Give a course of medicine, put a poultice of pond lily, slippery-elm and lobelia on the neck, gargle every two hours, with number six, and bayberry, or some other astringent; give a vapor-bath every day and keep the feet warm; continue this course until the patient recovers.

GENUS 92. PNEUMONITIS COMPLEXA.—Pneumonia typhoides. Epidemic lung fever.

Character.—Pain in the thorax; pulse variable, often feeble; impeded respiration; cough tedious, sputa tinged with blood; prostration of vital action; epidemic in cold seasons.—G.

This form of typhus is a good type of all the series. It involves many symptoms of them all, and, of course, requires a general treatment. See general remarks on this order.

Causes.—Cold, blood-letting and poisons; any thing that can check or derange the equilibrium of the circulation or the nervous action.

Indications.—The above symptoms clearly show that the perspiration is checked, the surface is closed and there is a powerful determination of blood to the internal organs, particularly the lungs. So great is the pressure on these organs, that the blood is forced into the air cells, and comes out with

the sputa. The irregularity of the pulse shows that the system now rises against the obstructions or depressing causes, then yields to their influence. Consequently,

The *Treatment* must be much the same as in pleurisy, or typhus; first relaxing to the nervous system and opening to the surface. Give the antispasmodics, as in typhus, bathe the surface, use enemas, of lobelia and slippery-elm, and, if these do not relieve the bowels, give freely blackroot, or even some more active cathartic sufficient to clear them. The pills of lobelia seed, bitterroot, and cayenne, made in butternut extract, taken every hour, are excellent in the case. If these fail to clear the bowels and disperse the fever, add a little gamboge and give three or four in peppermint tea. The stupor, delirium, etc., must be prevented or repressed, by the constant use of the antispasmodics. Give enough of these to keep the pulse moderate and soft—if they vomit it is well. Sponge the surface when hot, steam it when cold, and wipe it when *very* wet. In short, watch, constantly, all the symptoms, and remove those that are bad as soon as they appear. If the determination to the surface be not well kept up, day and night, emetics will be necessary once or twice a day; if it is, they will be needed only once in two or three days. As soon as the fever is fairly broken, and the circulation equalized, give the cayenne and nutmeg, or prickley ash and ptelea.

It is necessary to keep the room comfortably warm and well ventilated; the patient should be often washed, and his linen and bedding changed, washed and dried, and if he has no appetite for food for a long time, he should have gruel, soup, panada, toast water, rice water, etc., as a medicine, by enema as well as to the stomach. Nothing but the most constant and judicious practice will stop the "run" of this fever for many weeks. The over cautious and timid practitioner will not know, for many days or even weeks, whether his patient is getting better or worse. But the judicious, discerning and persevering, who makes it his business to see every change, and attack in the onset every unfavorable symptom, will see a decided improvement; and he will take the greatest possible pains to prevent a relapse by neglect or exposure, until the strength is well recovered. For toning the system, such articles as boneset, and other alterant or relaxing bitters, are better than astringents which, if used at all, must be combined with relaxants and stimulants sufficient to counteract their tendency to produce an astringent effect on the system. Thus combined they are useful to collect and condense the mucus of the stomach and bowels, to neutralize the effete matter and involve it with the phlegm and thus facilitate its removal.

GENUS 93. TYPHUS PETECHIALIS.—Ephemera maligna. Spotted fever.

Character.—A malignant ephemera, occurring epidemically in cold seasons, but liable to be protracted into the character of slow typhus; pains fugitive, yet usually concentrated under the frontal bone; not preceded by rigors; sighing and solitude of mind; pulse frequent, small, corded and retiring, often one hundred and sixty in a minute; liable to become suppressed some time before death. The location is in the serous membranes of the head and thorax, involving the adjacent nervous tissues. It sometimes fixes with severity in the abdomen. Petechiae exist in the serous membrane of the thorax, often in the abdomen, and frequently on the skin; sweats, for the most part readily excited. A protean form of disease, having a resemblance to the malignant epidemic intermittents, as described by Alibert; and, excepting the transpiration of blood, to the sudor anglicus of Sennertius.—G.

There is no symptom in the above description that is not indicated in the

propositions, with the method of treating it. The petechiae in the chest and abdomen, not being discoverable until after death, are of no use in practice.

Causes.—Cold, poisons used as medicines; sudden cessation of action after severe excitement; any thing that can “suddenly and rapidly” reduce the vital energies.

Treatment.—From the above symptoms, it is evident that the treatment should be warming and diffusive. Cayenne and the aromatic antispasmodics, should commence the operation. They should be given, to both the stomach and the bowels. After the pulse is somewhat raised by these means, give a bath with the feet in hot water; and, when you get up something like an equality in the circulation, give a full course. Warm applications may be made to the seats of the pain, and neurological operations will aid in diffusing it.

To remove the petechiae or spots, you should rub the surface often with a strong stimulating liniment, say a vinegar tincture of cayenne and lobelia. As Dr. Gallup says this is a protean form of disease, of course the symptoms will be numerous and various; but all you have to do is to observe every variation from the physiological state, and correct it as it occurs, according to the directions laid down in this work. (See index.)

In the interval between the courses, give the relaxing and bitter alterants, with stimulants if the pulse becomes very feeble or remits. If there is any difficulty in dispersing the fever, give lobelia in broken doses, the bath, catnip, sage or boneset tea, and a full emetic if these fail. Enemas must be used freely. If these fail, use blackroot or bitterroot. If this is insufficient to open the bowels, give the cathartic pills, with cayenne, nervines and the bath. This course of treatment must be pursued faithfully, until all signs of the disease disappear, the appetite and spirits recover and the strength rapidly improves.

GENUS 94. MELENA—Black jaundice.

Character.—Dark, sallow complexion of the adnati (coats of the eyeball near the nose); also vomiting of black, viscid, bilious matter, sometimes mixed with grumous blood; distress, faintness. The material vomited sometimes of a dark flocculent appearance; compared to coffee grounds; occurring in severe malignant diseases.—G.

The symptoms and condition of this form of disease are so nearly the same, as those of Genus 90, that it is supposed to proceed from nearly the same causes. Certainly it requires the same character of treatment.

The sallow complexion of the eye and the skin, shows that the liver is congested and that the bilious matter is obstructing the perspiration; and indicates the necessity of antispasmodics, as lobelia, boneset, skullcap, etc., and the vapor-bath, to loosen and remove these obstructions. The black, viscid bilious matter shows the pressure of blood to the stomach, which will be relieved by the above process, as will also the distress and faintness. If the pulse should actually sink below par both in velocity and volume, a little cayenne may be given. After the vomiting, enemas should be administered, and another vapor-bath, then a moderate cathartic, with an antispasmodic and stimulant to clear the bowels and promote a determination to the surface. Now give alterative medicine, and if this does not answer repeat the same course until it does.

GENUS 95. CHOLERA MORBUS.—Spasmodic puking and purging.

Character.—Frequent vomiting and purging of a watery fluid; spasms of the abdominal muscles, and often the limbs; anxiety, sinking and cold sweats.

As the disease mitigates, the emesis is attended with bilious discharges, as mild cases often are from the beginning.

Causes.—The remote cause may be either some irritating substance taken into the stomach, or a cold which has contracted the surface and driven the action inward. The exciting cause is the determination of the fluids to the alvine canal.

Indications.—These are, to reverse the determination and remove obstructions.

Treatment.—The bath and the antispasmodics, until the circulation and nervous action are relieved, and then a full course, with the ordinary means. I have often been obliged to put a patient into the bath before he could retain, in either the stomach or the bowels, even weak lobelia, spearmint or catnip tea. While in the bath, give the spearmint, catnip, balm or sage tea, until the stomach receives it kindly, which shows that the relaxation is effected, and that you can go on with your course. After the emetic, during the operation of which the feet should be kept warm with the bottle or can of water, give another enema and bathe again. Now your alteratives, with a mild cathartic if necessary, always remembering to keep a determination to the surface. Now use mild astringents to the stomach and bowels. The course must be repeated whenever you are unable, by your alteratives and tonics, to produce convalescence without it; and the bath and enemas should be administered once a day during the whole period of recovery, to purify the system of the obstructions which always accumulate during the prevalence of disease.

Let the food and exercise be attended to according to directions under these heads.

GENUS 96. DYSENTERIA MALIGNA.—Malignant or camp dysentery.

Character.—Frequent, small dejections of bloody mucus; tenesmus; prostration of vital action. Location in the rectum and colon; paroxysms of pain severe; pulse small and frequent; dejection of countenance; conjunctiva clear, and eyes sunk in the sockets.

Causes.—Often produced by exposing the pelvic region too long to cold air. Irritation by poisonous food or medicines.

Indications.—To equalize the circulation and nervous action; to warm the pelvic region, and clear the rectum of obstructions.

Treatment.—The determination being to the lower viscera, it is necessary to soothe them as much as possible, and to divert the action from them to the other parts of the body, particularly to the surface. For the first object, give enemas of lobelia and slippery-elm. For the next, let the whole body, particularly the pelvic region, be thoroughly heated in the vapor-bath, or by sitting in a tub of warm water (the former is far the better way), and the external surface of the pelvis be rubbed with stimulating liniment. If this is not sufficient to break the tenesmus, give a full course, and, if you still fail, give a mild cathartic with stimulating articles to clear the bowels and promote the action of the surface. Repeat the injections and the bath twice or thrice a day if necessary, and if the tenesmus is still obstinate, break it with small doses of lobelia frequently repeated. A tea of peppermint, caraway seed, bur-gamot, horsemint and such like, is very good to relieve the tenesmus. But lobelia, boneset, sage, catnip and other antispasmodics, should be faithfully given with occasional emetics, until the pulse becomes natural and the discharges of mucus cease. The pelvic regions and the feet should be kept continually warm, and the injections of slippery-elm should be administered as often as the rectum becomes uncomfortable.

The patient should be quiet, and his diet should be small in quantity and of the vegetable kind, unless it sours on the stomach, when a little chicken, lamb, or beefsteak or some kind of wild game should be given. Dried beef or venison is good. When the acidity of the stomach is corrected, let the vegetable diet be resumed.

GENUS 97. ENTERITIS MALIGNA.—Severe intestinal inflammation.

Character.—Intense pain in the abdomen. Not relieved by cathartics; pulse frequent and small; vomiting; tension, and tenderness on pressure, countenance fallen; vital action prostrated.

Indications.—To divert the action from the internal canal to the external surface, to equalize the circulation and nervous action, and to remove all obstructions.

Treatment.—Warm, bland teas to the stomach and by enema, followed by the vapor-bath medicated with relaxing articles, as catnip, sage, balm, lobelia, etc., until the circulation and nervous action are equalized, when an alternative course of relaxing bitters, will generally suffice. If it does not, repeat the bath and enemas with the stimulants to the surface of the pelvic region as directed in the preceding genus. The vomiting, tension and tenderness, will all be relieved by the emetics, injections and vapor-bath, if they are faithfully applied. The countenance will rise when the distress is removed, and the strength will soon recover. On account of the fear that little children frequently have of the vapor-bath, we frequently prescribe the warm-bath for them, but it is not by far so good for them or any body else. I may be asked, what shall be done if the above course should fail. I answer, the above course is right, and if it fail it must be because, either the constitution of the patient is ruined, or your medicines are not good, or you have not applied them judiciously and perseveringly. They must be repeated, again and again, until the desired effect is gained. Steady and long perseverance, *in the right course*, often succeeds, where no violent practice for a few days would effect the object. Many cases require *time* for the renovation of the system. I have had, for twenty-five years, my full share of these cases and have never yet "failed" in any one.

GENUS 98. HYSTERITIS TYPHOIDES.—Puerperal or child-bed fever.

Character.—Commencing about the second or third day after delivery; pain and intumescence in the hypogastric region, extending over the abdomen, and often involving the peritoneum generally; tenderness on pressure; small, frequent and hard pulse; suspicious alienation of mind.

Causes.—Neglect to cleanse the general system after delivery, and to promote the general secretions.

Indications.—Same as in any other case of inflammation, to equalize the circulation, remove morbid matter and tone the system.

Treatment.—Though I have delivered many women in the last twenty-five years, I have never seen a serious attack of puerperal fever in any one of those cases. I have, however, been called to treat this form of disease after others, and I treated it as I would any other case of fever that presented symptoms of local inflammation. One case was Mrs. _____, near Columbus, who had been treated by Dr. P., until it was thought she would not live until the next morning. She had been bled and treated with morphine, but still she had a high fever, and was delirious. At twelve o'clock at night, I commenced the treatment with antispasmodic teas to the stomach and by enema, and poulticed the bowels with lobelia and slippery-elm. At about

one o'clock, commenced giving lobelia, thoroughly cleansed the stomach and bowels, gave freely of bland teas and raised a free perspiration about an hour before daylight. I left her in the care of her mother and sister, both good nurses, and retired. At breakfast I went to her and she knew me, and was quite easy. Gave another course that day. In the afternoon she sat up and conversed with me and others, and in a few days was as well as usual. I have never lost a case.

The symptoms given above, show that if a plenty of bland teas be given for the first two days, so as to keep up a gentle breathing sweat, the fever would have had no beginning. But, should it commence, the pain and swelling should be relieved by antispasmodic teas and the vapor-bath; the abdomen may be poulticed with pond lily and slippery-elm, or mush and slippery-elm, and, if not hot, cayenne may be sprinkled over it; or a poultice of bitter herbs, is even better. The pulse will be expanded, moderated and softened, and the alienation of mind will be corrected by the liberal use of lobelia and sponging, or the bath.

GENUS 99. ERTSIPERAS GANGRÆNOSUM.—Malignant Erysipelas.

Character.—External, local inflammation diffused, without marginal adhesion, and irregular; burning heat; vesications (blisters) inclining to a dark color, or gangrenous.

Cause.—A poison virus supposed to be contagious. Some believe it to be an animalcule.

Indications.—To wash or absorb away the virus, to purify the blood, and tone the general system.

Treatment.—My practice has been to give, in the incipient stage, a full course of medicine; and, after the vesicles appear, to wash them with weak ley, and poultice them with slippery-elm, charcoal, and bread and milk. If they appear gangrenous, I wash them with number six (tincture of cayenne and myrrh) and put the dregs into the poultice. I use also a wash of oak bark tea, or a decoction of almost any other astringent. If the sores are obstinate, I wash them often with weak ley or strong soapsuds, of domestic soap, and then use the dregs of number six, and the charcoal and elm poultice.

I had a case in Richmond, Virginia, that had been growing worse under the mineral practice for several years. I gave a course, poulticed the face with pond lily and slippery-elm, and she soon recovered, and had it no more. In other cases, I have poulticed with lobelia, dregs of number six, charcoal, etc., which are excellent to prevent mortification. I have seen the whole hands, and much of the face shed their skin, but never lost a case. Persevere until cured.

GENUS 100. GANGRÆNA.—Gangrene, mortification.

Character.—A part deprived of vital force by causes inducing sudden and extreme enervation, loses its tonicity and vital character; becomes insensible, yielding and livid, or dry and hard. A dead part surrounded or intermingled with vital solids. It is called by different names, as,

1. *Sphacelus, sloughing.*—The dead part soft and black; decomposing and separating from the sound; smell putrescent.

2. *Ustilaginea, Mildew.*—The enervated part, at first white, turns black, dry and shriveled; then becomes shriveled, then separated and cast off. Occurring chiefly on the extremities, with a general state of enervation; spreading in limbs, sometimes until they lose their attachment to the body.

Incarcerated hernia, intussusception, and other mechanical obstructions, as

ligatures, etc., destroying the circulation into the tissues of a part, belong to this order.

"It ought to be distinctly understood that the above are not all the diseases that may find admittance into this order. There is scarcely a febrile complaint, including the exanthemata (eruptive disease), internal inflammations, and even chronic disease, but that appears in different degrees of intensity which will always indicate either the mild or severe diathesis. Small pox, measles, scarlatina, enteritis, peritonitis, etc., may be cited as examples. The general morbid changes are more severe in the one instance than in the other, and each one impresses the tissues affected according to their intensity."—Dr. Gallup.

The above scientific display, from our friend Dr. Gallup, means simply this: that either too much or too little action may destroy the vitality of the part—sometimes of one tissue sometimes of another (sometimes it softens and sloughs off, as in bruises; sometimes it hardens and stays on, as in corns); and that this may take place after the action of any cause of disease, in any of its forms. It is, in fact, the part of the system over which, as friend Harrison says, "The inherent tendency of all organized bodies to change their forms, has usurped the control." In one word, it is dead.

Causes.—I have already shown that the cause may be any and every thing that can destroy the vitality of a part.

Indications.—The indications will, of course, be, to remove the dead parts, and to preserve the vitality of those that remain.

Treatment.—Blood-letting and poisons of all kinds, tend to diminish the vitality of the general system, and, of course, are calculated to produce gangrene, not to remove it and to save the living part; therefore, they are highly improper; all your means and processes should be in harmony with the vital operations. They should relax, stimulate, depurate. Lobelia, cayenne, bayberry, etc., and the vapor-bath, poultices, washes, stimulating liniments, as in Genus 99; these are the means by which you are to sustain the living action and cast off the effete or other matter which tends to produce and extend gangrene.

Since there is no other method known, that so rapidly depurates the whole system, and rouses every part to healthy action, as a thorough course of medicine, you are to resort to this in all cases where there is danger of mortification, and to continue its beneficial effects, by applying the same remedies to the special part affected, in the forms of washes, poultices, salves, etc. In cases of the softening and putrefaction of the part, as in bruises, I wash with soapsuds or weak ley, then with a tea of cayenne and some good astringent or weak number six, then poultice with common articles covered with the dregs of number six, powdered charcoal or slippery-elm, or all these, renewing every six hours at least; always as often as the poultice becomes dry. At the same time, I give relaxing and stimulating articles, as golden seal, balmouy, butternut, etc., and cayenne, to continue the depurating action commenced by the course. The vapor-bath and friction of the surface with stimulants, should be often repeated. The affected part should be often bathed in warm weak ley. If it can not be immersed, it should have cloths laid on and the ley dripped on them for half an hour, then be dressed again as above directed. If the disease be not arrested by these means, repeat the course, and follow up as before.

In cases of dry mortification, as corns, soak the part thoroughly in weak ley; shave it close to the quick with a sharp, narrow bladed knife, and then put on it some soft oil, as sweet, neat's foot, or goose oil, and dress it so loosely

that no pressure need be made upon the part. It is well to take a piece of thick flannel or buckskin, cut a hole in it as large as the corn, put it on the part and fasten it on with a piece of woolen yarn, or a stocking rolled over it. Repeat the soaking, shaving and dressing, and wear loose, soft shoes, or moccasins, until the end is accomplished.

Hernia should be speedily reduced by placing the patient in such a situation that the locality of the rupture shall be the highest part of the abdominal cavity. Then administer an emetic of lobelia alone, and apply to the tumor a warm slippery-elm poultice, for a half hour, then with your hands carefully press upon it very gently, and in different directions, until all is reduced. Then apply a bandage to the part, with a compress over the aperture, and enjoin rest in such a position or positions, that no strain will come upon the injured part, until it is entirely healed. If the part of the intestine is out, strangulated and mortified, before you are called, I see not what can save the patient.

In intussusception, which can seldom be certainly ascertained until it is too late to do any good, emetics and enemas should be given until nothing can be ejected in either direction, and the patient becomes completely relaxed. This will generally relieve. Abstinence and rest for a day or two, will restore a healthy tone to the intestine.

Mortification being the natural tendency of all disease, and the complete destruction of life to the part, it can hardly be called disease, which signifies uncomfortable state, but death itself; and therefore, instead of constituting a part of many orders of disease, it is no disease at all. It is only dead material which must be separated from the living. This is really diseased, but not always in a manner peculiar to any order or class of affections. It is the universal result of the loss of vitality. See Criticism, articles Mortification and Suppuration.

Among the poisons that are given to cure disease, mercury stands prominent in the destruction of vitality and the production of mortification or gangrene. Scarcely a day passes that does not bring us examples of the mischievous effects of this deadly drug. Gums and cheeks rotten, palates eaten out, nodes on various parts of the body, teeth and jaw bones destroyed, and even in the mildest cases, the breath more offensive than the fumes of a slaughter house in a July sun; and yet scientific and benevolent men, who know and attest these facts, daily prescribe it for the cure of disease. Well might Professor Chapman call such principles, "absurdity, contradiction and falsehood;" and such a practice, "horrid, unwarrantable, murderous quackery!" I know of no better reason to give for the strange "perversity of our nature," by which we have learned thus to "put darkness for light and light for darkness; to call evil good and good evil," than that given by Dr. Mussey for the same, "turning topsy turvy of the laws of our being and poisoning our own instincts," with tobacco, viz:

"Man's first disobedience, and the fruit
Of that forbidden tree, whose mortal taste
Brought death into the world and all our woe
With loss of Eden."—*Milton.*

No. 30.—Order V.

"The character of the common morbid habit may be modified by the reflex actions," that is fevers may be distinguished,

Fifthly, as the local concentrations may effect the dermoid tissue (the skin),

endued with sensitive nerves of external relation (sensation and voluntary motion).

DIATHESIS FERVIDA ERUPTIVA.—Strong eruptive fevers.

General Character.—“Inflammatory or phlogistic; notwithstanding many cases present the aspect of the typhoid gravior, as particularly exemplified in the exanthems. So small pox, measles and cynanche often assume this diathesis, on account of the eruptive irritation having made strong impressions on the internal tissues affecting the ganglionic susceptibility before arriving on the skin. In such cases, the viscera remain burdened; they are not sufficiently relieved by the eruption.

“The chronic affections of the skin, are pretty uniformly of a mild, phlogistic character. They sometimes recede to the internal tissues and excite extraordinary commotion. The skin, being essentially of the fibrous character, and supplied with the sensibility of external relation, is capable of transmitting free reflex actions on the general habit.”—G.

All this means that, in the eruptive and acute disease, as scarlatina, small pox, etc., the virus which causes them disturbs the internal organs before and after it arrives at the surface, that it is liable to be turned on the internal organs and to become fatal; and that the chronic eruptions, as itch, tetter, etc., which usually begin on the surface, are more easily kept upon it, and are usually capable of disturbing but slightly the internal action, though they sometimes, as in leprosy, “excite extraordinary commotion.”

All these show that the proper method of treating these forms of disease, is to establish and maintain a steady determination to the surface, and wash and absorb away the virus as it arises there. No more centrifugal force must be applied at any time (except in giving a course of medicine), than what the system can sustain during the whole course of the disease, lest you overcome this power (weary the organs) and produce a reflex action, a determination inward, which constitutes the dangerous condition called metastasis, or translation of a disease from one organ to another, as from the surface to the lungs, liver, or internal canal, as in measles, scarlatina and small pox; or from the feet to the stomach, as in gout.

FIRST SERIES—ACUTE ERUPTIONS.

GENUS 101. VARIOLA.—Small pox.

Character.—“Shivering; pain in the head and back; vesicles under the cuticle, between the third and fifth day from the attack, rising into purulence about the eighth; degenerating thence into scales, and falling off about the sixteenth day, leaving sometimes scars or pits; liable to secondary fever; contagious.

Varieties.—1. *Discreta*; pustules pea-sized and distinct, margin red.

2. *Confluens*; pustules irregular and running together; margin pale.

3. *Inserta*: inoculated.”—G.

Dr. Abernethy says: “This dreadful disease is caused by the communication of infectious matter. Children feel listless and drowsy for a few days before the small pox appears. About the third or fourth day from the time of sickening, the small pox begins to appear like flea-bites, which are soonest discovered on the face, arms and breast. The most favorable symptoms are a slow eruption, and an abatement of the fever as soon as the pustules appear. Pustules which are distinct, with a florid red basis, and which fill with a thick, purulent matter, first a whitish, and afterward of a yellowish color, are the best.

"A livid brown color of the pustules, is an unfavorable symptom; so also, when they are small and flat with black specks in the middle. It is likewise a very bad sign when they run into one another. The number and malignity of pustules will often depend on the treatment at first adopted. If the room be considerably heated, the patient kept in bed under a load of bed clothes, and plied with heating drinks, such as white wine whey, the crop of pustules may be expected to be so great, that the powers of the patient will be exhausted before they are ripened and cleared off. Care should be taken not to break the pustules, which causes deeper sores. If the itching is great, a liniment of cream mixed with magnesia will allay it. The medical treatment ought to be similar to that of typhus fever, taking care not to give violent purgatives.

"In the early stage of the small pox, when the symptoms run high," continues the doctor, "we may, in addition to exposing the patient freely to cool air, recommend washing the body partially or generally with cold water; for the cold bath not only seems to moderate the febrile symptoms, but likewise to diminish the number of the pustules and greatly lessen the danger of the disease. The temperature of the room should always be such that he may experience no disagreeable degree of heat, but rather a sensation of cold, and, except he complains of being chilly, we need not be afraid of carrying the cooling regimen too far. He should lie on a mattress, covered with only a few bed clothes; a feather bed being apt to occasion too great an accumulation of heat. If convenient he should have an apartment to himself, as the heat [and bad air] of a crowded room are sure to prove injurious, and his linen as well as that of the bed, should be shifted frequently. One in every ten to twenty, has been found to die of the small pox coming on spontaneously or in the natural way; and about one in two hundred of those who receive it by inoculation."

Thus far Dr. Abernethy. Of all but the cold water treatment, I can cordially approve, and to this, if not carried so far as to produce a chill, there is not much objection. I have given, in the incipient stage, that is, when the pains in the back and head, and febrile symptoms came on, some composition and the vapor-bath, and sometimes a full course. This usually brings out the eruption and relieves those symptoms; after which I treat as above directed; giving no more warm tea than is necessary to keep the pustules full and red at their bases. While this is the case, the patient is doing well. If they turn pale and flatten you must give stimulants, and, if necessary, an emetic to drive them out.

I fully concur with Dr. Abernethy about the necessity of having the room cool, and the patient alone and on a straw or husk or moss mattress (feather beds are bad), the room well ventilated and constantly purified with soapsuds, and chloride of lime or soda, or a solution of sulphate of zinc or of iron (copperas), and the linen often changed and washed. The patient should be prevented from picking the scabs, as that is most sure to make pits or scars. Poultices or wet cloths to the face during the progress of the eruption, absorb the virus and prevent the pits; but they have a tendency to render the pustules confluent. As there is never any pitting or marks on the body, so excluding the air from the face, will prevent pits there. It may be done by covering it, except the nostrils, with a piece of oiled silk.

For drink during the filling of the pustules, a little composition tea, or a decoction of hemlock bark or sumach leaves and boneset, will be good. The bowels should be kept clear with enemas. If the costiveness should not be removed by these, cold boneset tea, or a little butternut extract may be given,

but active cathartics should never be given. They tend to produce a determination of the virus to the internal organs, and, of course, the destruction of the patient.

When the scabs are all off, the patient should be thoroughly bathed, and washed with soapsuds or weak ley while in the bath; drinking at the same time composition tea. Then the bath should be well scalded, and fumigated with chlorine, which last is the most conveniently done by putting a gallon glass jar into it and putting into the jar a half pint each of sulphuric acid and common salt, shaking it up and letting it remain so for a day. The room should be purified in the same manner, with a quart of each of the articles instead of half a pint. The jar should be large lest the effervescence run over on the floor. Be careful not to breathe the gas yourself; it may kill you as well as the small pox. As for the clothing and bedding, boiling is all sufficient to cleanse them. All these purifications should be performed by those that have had the small pox or varioloid. If persons who have been merely vaccinated perform them, they *may* be so affected as to have the varioloid. I have seen several such cases, some of them were pretty severe.

Great attention should at all times be paid to cleanliness which is a preventive of all forms of disease, and will do much to cure the worst of them. I have never yet (November, 1856,) lost a case.

GENUS 102. VARIOLOIDES.—*Variola Simulata. Modified small pox. Varioloid.*

Character.—“Occurs in spuriously vaccinated and sometimes variolated persons [those that have had this form of disease], when exposed to the contagion of small pox. Symptoms similar to those of the mild small pox; a full vesicle forms, but higher than small pox, with an indentation; suddenly dries up, and falls off in thin, transparent straw colored scales. The skin now appears projecting above its level, or tuberculated; no secondary fever; contagious.”—Gallup.

I have seen it in several persons who had been vaccinated, some ten years before, but it was generally mild. I saw one case of genuine small pox where vaccination had been performed ten years before. But it is probable that the vaccine matter did not take well. See *vaccinia*.

The *Indications* and *treatment* are the same as for small pox, the principal difference being that the disease is milder and the danger less. A little boneset or sage tea with ginger if the patient is chilly, is sufficient to drive the disease to the surface and prevent its return. Cold boneset tea is about as good as any thing for this form of disease. It will determine to the surface, and at the same time, it will keep the bowels open. If the stomach and lungs are evidently oppressed, give broken doses of lobelia, etc., and, if this does not relieve, give an emetic and an enema. Continue a regular tonic course, as long as the case requires any treatment. I have lost no case.

GENUS 103. VACCINIA.—*Cow or kine pox.*

Character.—“One vesicle or more, depressed in the center, transparent and circular; surrounded with a red areola or circle; hardening into a dark mahogany colored scab, falling off about the eighteenth day, leaving a permanent smooth scar.”—G.

Cause.—Inoculation. It is the virus of small pox, modified by transmission through the cow. If the vesicle is irregular and purulent, the areola indistinct, the scab formed early and rough, it is called spurious.

Vaccination is now generally practiced to prevent the small pox, which is done, at least for seven or eight years, by the virus passing through the body

in this light form, provided the matter is good, and it takes a good hold of the system. Great precaution, however, is necessary that the vaccine matter be taken from a healthy person, lest a disease worse than small pox, be communicated; as syphilis, scrofula, tetter, etc.

"The matter taken from a vaccine pustule nine days after its appearance, and which ought then to be perfectly transparent on being inserted under the skin, will produce, on the third day afterward a small red spot; on the fifth day, the other arm ought also to be vaccinated; and, if the first has been perfect, both pustules will ripen precisely at the same time. If this does not take place, the constitution has not been properly affected, and the vaccination must be repeated; a simple and easy test which ought never to be neglected. On the sixth day, the pustule becomes discolored in the center. On the tenth day, both the pustules will be perfect, and should have a dimple in the center, and not be raised like a common pimple. A complete test of perfection is, that when pricked with a needle, the contents are not all let out, as in a common pimple, and for this good reason, that the vaccine pustule is composed of many bags or cells that do not communicate with one another, while the common pimple has but one cell. This allows also, matter to be taken without destroying the pustule. Another mark of the genuine pustule, is that its shape, is circular or oval, and the margin never irregular and jagged; while the outer margin should be a deeper red than the space within it, and between it and the center. The redness should disappear about the thirteenth day, and the scab falls off about the fourteenth. If the pustules want these characters on the ninth or tenth day, and look like a common pimple or inflamed sore, it will afford no protection to small pox, however severely it may affect the patient with fever.

"The scar or cicatrix left by the vaccine pustule, if genuine, must be distinct, circular or oval, and full of little pits or dimples, spreading in rays or lines from the center to the circumference, and so small that it can be covered with a pea. On the contrary, when the scar is large, irregular and without the little radiated pits or dimples, secondary small pox, if it do occur, has a chance to be severe.

"The idea is gaining ground that the protecting influence of vaccination wears out in ten or fifteen years; but, if it does (which is far from proved and very doubtful), repeating the vaccination and renewing the assurance is easy."—Abernethy.

Thus it is seen that the vaccine virus should be taken on the ninth day, from a genuine pustule, and, above all, a healthy subject of a good constitution. It may be obtained by pricking the pustule with a needle or lancet, and pressing out gently the matter, drying it on glass and preserving it in sealed vials, or by drawing a white silk thread through it and drying and preserving this in the same manner; the former is the most convenient for use.

To vaccinate, prepare a small portion of your matter by bruising fine if pure, or cutting off a minute portion of the thread; insert the point of a lancet, flat-wise, under the skin on the upper side of one arm about half way from the shoulder to the elbow, avoiding the veins. Lift up the skin, and with some little instrument, as the point of a penknife, thrust the matter into the hole under the point of the lancet. Very convenient instruments are made in this city (price three dollars), to do the whole work alone. In healthy subjects no medical treatment is necessary. If they should be sick, treat them as you would if they were not vaccinated. But you should prepare them before vaccination. In general no medical treatment is necessary. If fever arise, remove obstructions as in the other cases.

GENUS 104. VARICELLA.—Chicken pox.

Character.—“Vesicles thickly scattered; not so large as in variola; transparent, with a thin pellicle; not maturing into pus; but, about the third day, oozing at the top, and forming small, irregular dark scabs; often successive imperfect crops of pustules. The vesicles are sometimes flattened at the top and called *lenticiform*, sometimes sharpened and called *coniform*, swine or water pox.”—Gallup.

“The eruption termed chicken pox, may be easily distinguished from small pox, by there being little fever; by the pustules appearing first on the back; by the appearance, on the second day, of a small watery bladder on the top of each, and by its ending in three or four days.”—Abernethy.

Treatment.—No very energetic treatment is necessary. A little sage or boneset tea, with a bath at the commencement and after it is over, taking care that the bowels are free, with a moderate diet, is all that is generally necessary. If the symptoms require an emetic, let it be given.

GENUS 105. RUBEOLA.—Measles.

Character.—“Dry cough; soreness in the fauces; suffusions of the eyes (blood shot); rash appearing from the third to the sixth day of the attack; first in the fauces, then on the face and breast; terminating in cuticular exfoliations (scaling from the outside skin), about the tenth day.

Cause.—Contagion.”—Gallup.

This being a very common form of disease, and the fashionable treatment of it very fatal, I give also Abernethy's description of its character, namely:

“The disease commences with the running of water from the eyes and nostrils, sneezing, cough and swelling of the eyes and face, with occasional shivering, cold in the back, and drowsiness. An eruption first appears behind the ears, on the third or fourth day, spreading downward to the neck and forward to the chin, mouth or forehead, but seldom shows itself on the body until a day or two after. The eruption speckles the skin somewhat like the bites of fleas, and is of a crimson color and not scarlet, as in scarlet fever. The crimson specks of measles arrange themselves in groups of irregular circles, or crescents, and leave the skin between them of its natural color, which never occurs in scarlet fever. The great danger in measles does not arise from the abundance of the eruption, the severity of the fever, the oppressed breathing nor the violence of the cough; but almost wholly from the secondary inflammation that comes on, or rather, after the fever and the eruption have gone off, which usually happens in nine or ten days. Many children have this secondary inflammation produced or increased, by cramming themselves with too strong food, when they are beginning to recover, with the false notion of strengthening them. It is no less absurd to dose the little patients, after measles, with purgatives, when their bowels are in proper order. The same medicines that are recommended for scarlet fever, will be useful.”

By the above, it is seen that, though the regular faculty are very nice in making discriminations in the symptoms of different forms of disease; yet, like us, they treat disease as a unit. They give the same remedies for scarlet fever and measles; and so they ought; for whatever will carry through the system and remove from it one morbid cause, will do the same for another. But the means and processes they recommend, are very far from what we deem the most suitable. We are willing to take from them the description of the characters of disease; but when we come to the treatment, we must have our own way.

My plan of treatment is to give medicines according to the state of the case.

If the patient is cold, and full of pain in the commencement of the disease, and the pulse small and feeble, I give medicines that are pretty warming, as composition, or cayenne or ginger, in some of the aromatic teas, as catnip, spearmint, sage, pennyroyal, etc.; but, if the fever is high, the pulse full and strong, I give the above or boneset tea, without the cayenne. If, in either case, I find it difficult to sweat the patient, relieve the oppression and bring the eruption out, I use the vapor-bath also. To loosen the cough, I use cough sirup made of the best antispasmodics, or lobelia in some form, as sirup, lozenge, or in vapor; and, if the lungs are much clogged or the stomach appears very foul, I give an emetic. If the bowels are deranged, I treat them as directed for any other case, being careful *always* when I give laxative medicine, to combine with it diffusive stimulants sufficient to prevent tenesmus, and to determine to the surface. I observe, in regard to the temperature of the room, the character of the bed, the quantity of clothing, etc., the directions given for small pox. Measles can be very easily cured, in a variety of ways. I had them in 1824, just one week, and I took nothing but sage and flax seed tea. Boneset and slippery-elm, would have done just as well. I have treated many a case without a failure yet. (November, 1856.)

GENUS 106. SCARLATINA.—Scarlet fever, canker rash.

Character.—Rash or scarlet efflorescence irregularly diffused over the body, appearing about the second and vanishing about the fifth day.

Varieties 1. Simplex.—Without inflammation in the fauces.

2. Anginosa.—Inflammation in the fauces, with fever of the synochoid character.

3. Maligna.—With typhoid character. *Cynanche maligna.* See Genus 91.
Of this form of disease, Abernethy thus discourses:

"This appears to be infectious, similar to typhus, though we are ignorant of the nature and can not even prove the existence of what is learnedly termed miasmata, said to produce it. [Probably some specific virus.]

"It begins with chilliness and shiverings, and the whole skin becomes covered with partial inflammations, *more numerous, larger and redder* than those of measles. In two or three days they disappear, succeeded by the scaling of the scarf skin [cuticle], like bran dispersed over the body, which scales fall off and are succeeded by others two or three times."

Indications.—To keep a steady determination to the surface.

Dr. A. recommends but little treatment for this form of disease. I treat its mildest forms just as I do measles. In anginosa, I give an emetic, boneset or sage freely to relieve the fever, and poultice the neck with something stimulating, to invite the inflammation to the surface. A piece of flannel dipped in a strong decoction of cayenne in vinegar, will answer very well. The bath also should be used several times, and if the fever does not subside, give broken doses of lobelia, until it does. Then diaphoretics and enemas, until the disease yields.

Maligna.—See Genus 94. This is the same form of disease, in a constitution filled with morbid matter, or one broken down by poisons. Dr. Abernethy says: "The earlier symptoms are the same; but the alternate chills and heats, pains and heaviness; the expression of anxiety in the countenance, are soon succeeded by slight swelling in the throat, which rapidly spreads over the inside of the throat, has a high florid, or bright crimson appearance, somewhat shining and glossy, and is soon attended with whitish spots, which terminate in ulcers; the tongue becomes foul, the breath exceedingly offensive, with general irritation or delirium. There is a partial or general crim-

son color of the skin, or an eruption of small pustules, the early appearance of which is a favorable omen."

The *Causes* and *indications* are the same as in the milder forms. More care should be taken to prevent and to subdue mortification. To this end, the patient should have a course or two of medicine, and drink teas of our best astringents and acid fruits, with cayenne to aid their action. The poultice covered with cayenne, about the neck, is very serviceable. The alternatives, as boneset, burdock, sarsaparilla, spikenard, and other laxative bitters; gargles of cayenne tea, or diluted number six.

The diet should be vegetable and spare, and the other little circumstances must be the same as for small pox. I have lost no case yet. November, 1856.

GENUS 107. URTICARIA.—Nettle rash.

Character.—“Rash in florid itching, nettle sting, wheals; appearing about the second day; irregularly fading and reviving, or wandering from part to part.”—G.

Treatment.—Give a course of medicine; after the vapor bath wash with soft soap or weak ley, and then with tincture of lobelia where the rash is. Give a tea of burdock and sarsaparilla, or any of our depurating medicines, and repeat the bath often until the disease is removed.

GENUS 108. MILIARIA.—Miliary eruption.

Character.—“Small vesicular eruptions; stinging sensation; following profuse sweats, especially in puerperal fever; attended with a sour odor.”—G.

Treatment.—This form of eruption arises from a want of cleanliness; and the treatment recommended for the preceding genus, with some sudorific teas to break the fever, will be all that is wanted here.

GENUS 109. ERYSIPelas.—St. Anthony’s fire.

Character.—“An extensive, undefined, and irregular tumefaction on the face, or any part of the body; skin of a deep red color, and often partially covered with vesications.

Varieties.—1. *Suppurative.*—Solid and liable to suppuration, cells of cellular tissue not united by adhesion; matter diffused.

2. *Edematous.*—Soft and compressible.

3. *Gangrenous.*—Dark colored, liable to terminate in gangrene.

4. *Erratic.*—Migrating extensively over the body.”—Gallup.

“Any part of the body is liable to its attacks, but it most commonly seizes the face and legs. It is generally preceded by cold and shivering, after which come on heat, thirst, restlessness and other feverish symptoms. When the face is the part affected, it swells suddenly with great pain, and a shining redness, inclining to yellow, on which appears a number of small pimples containing a thin, colorless fluid. The eyes, one or both, are sometimes closed up. The inflammation sometimes terminates in seven days, sometimes ten or twelve, *and at last goes off with a plentiful sweat*. In the worst cases, the brain is affected, and delirium or coma ensues. When it seizes the breast, the part swells and becomes hard, with great pain, which sometimes ends in abscess or ulcer. When the swelling falls, the heat and pain abate, the redness which before prevailed, becomes yellow, and the skin falls off in scales. If the red color changes into a livid or black, mortification is at hand.”—Thacher.

Sometimes the whole skin of the hands and feet, becomes dry, separates

from the flesh and falls off. The disease has sometimes attacked the tongue, and produced much mortality under the name of black tongue.

Causes.—Injuries, poisons to the surface, bad state of blood, suppression of perspiration and other evacuations, drying up of tissues, in short, many things that poison the system or prevent its depurations, may be causes of erysipelas, as all the above varieties can not be produced by the same cause.

Indications.—To relax and cleanse the general system, to keep the surface open and comfortable, and to restore the digestion and tone up the organs.

Treatment.—The first thing is a regular course of medicine, using but a small portion of astringents in the teas; the next is to keep up the relaxation and determination to the surface, by the use of boneset, sage, motherwort, catnip, etc., and the bath as often as needed. When the face and other parts are much swollen, poultice them with bread and milk, lily root, slippery-elm, marshmallows, etc., into which may be put bitter herbs, as wormwood, boneset, etc., and a little lobelia, in the intervals of the bathings. Flour or powdered starch, sprinkled over the skin, absorbs the matter suppurated, and prevents its reaction on the system. If there is danger of mortification, a little ginger or cayenne, or what is better, dregs of number six (compound tincture of myrrh), should be applied to the part, or sprinkled on the poultice, which should contain slippery-elm and charcoal, mixed in yeast. The bowels should be kept open, with enemas, unbolted wheat bread, or, at most, laxative bitters; but no drastic physic should, by any means, be used, as it produces a repercussion or return of the disease to the internal vital organs. The body should be kept in a comfortable state, neither too hot nor too cool, and this may be done by the use of the warm bath, or by bathing the part with cool water, as the case may require.

In the form of this disease called the black tongue, the parts that are threatened with mortification, should be sprinkled often with cayenne, or gargled with cayenne and vinegar or dilute number six, or compound tincture of myrrh. The vesicles, the suppuration and the swellings should be kept moist, either by the bath or by poultices. The edema will be best reduced by the bath, which, in obstinate cases, should be medicated with lobelia and cayenne. The full courses should be repeated as often as necessary, and followed by the alterative treatment above pointed out. If there be sinking, prostration or paleness, use stimulants. I have treated as above, a number of severe cases of this form of disease, and have lost no patient.

The diet should be light, cooling and vegetable, avoiding animal food and all things that inflame the blood or are hard to digest. Fat meats and gravies are very bad for them. The drink may be barley water, toast water, infusion of sage, and other aromatics; elder flowers, whey, etc. And persons who are subject to the return of this affection should continue this diet, when well.

GENUS 110. ERYTHEMA.—Inflammatory blush.

Character.—“Superficial, turgescent redness on the skin, burning sensation; redness disappearing on pressure; occasionally migrating in irregular trains.”—Gallup.

Causes.—Any thing that checks the return of the blood from the surface to the heart. Among these, corsets and tight waistbands are very common.

Indications.—To equalize the circulation and restore and maintain the action of the surface.

Treatment.—The vapor-bath for several days, with diffusive stimulants, and friction to the surface, particularly the lower extremities, will generally suffice. When these are insufficient, give thorough courses, and then continue

these. The diet should be the same as for erysipelas, but it may be more freely used.

GENUS 111. PERNIO.—Chilblain.

Character.—Bluish, crimson color of the skin; intolerable itching; affecting the extremities in cold seasons; liable to ulcerate.

Causes.—Probably freezing.

Treatment.—When they first appear, bathe them night and morning in cold water and rub them dry. If they have become sore, poultice them, and remove the inflammation, or absorb the virus if they are suppurating. Keep the general health good, and do not expose the parts to cold weather so long as to chill them. Wear nothing tight on them. They will be tender for months—sometimes for years; but will finally recover their healthy condition, if the patient avoids exposure to the action of the cause.

GENUS 112. PEMPHIGUS.—Vesicular fever.

Character.—“Transparent vesicles the size of a filbert, scattered over the body; edges inflamed; fluid pellucid; liable to ulcerate on breaking.”—G.

Causes.—Similar to those of Genus 109. Any thing that prevents the depuration of the body by the natural secretions.

Treatment.—Cleanse the general system with a full course, or more if necessary. Bathe often, and, if ulceration takes place, poultice. Diet as for Genus 109.

GENUS 113. BULLÆ.—Blebs.

Character.—“A large portion of cuticle detached, containing a watery, yellowish fluid; growing from small vesicles to the size of walnuts; spreading over the whole body and into the mouth, forming ulcerations; continuing several months.

Varieties.—1. *Quotidiana.*—Dark, red base, coming and going in twenty-four hours; on the hands and legs.

2. *Pompholyx.*—Tingling, followed by transparent pea-sized vesications, reappearing on various parts of the skin; difficult to heal.”—G.

Indications.—To depurate the system and keep it cleared and the surface active.

Causes.—No doubt some virus from the body, which has been suffered to remain in the skin for want of proper and timely depuration.

Treatment.—The vapor-bath and sudorific teas, every day, and an emetic, if the stomach be foul, until the disease entirely disappears. Due cleanliness in health, will protect the system from these and the following forms of disease of the surface:

SECOND SERIES—CHRONIC ERUPTIONS.

GENUS 114. PLICA POLONICA.—Matted hair.

Character.—“Hairs of the head, sometimes of the beard and pudendum, increased in vascularity, sensibility and size; issuing blood and an agglutinating secretion; the hair becomes matted and entwined. Supposed by some to be infectious.”—G.

Causes.—“This disgusting complaint arises frequently from uncleanliness and improper food, or an unhealthy nurse; but it is often communicated by contagion either by using a comb imbued with the matter from the head of the person affected with it, or from wearing his cap.”—Thacher.

Indications.—To remove and keep off all the causes; to cleanse the general

system and restore its health, and to dissolve and absorb away the morbid deposit.

Treatment.—The first and second indications are fulfilled by the common means of equalizing the circulation and purifying the whole man, with courses and alteratives; among the latter, burdock, sarsaparilla, spikenard, alder bark, golden seal, balmony, boneset, etc., are conspicuous. The third must be effected, in mild cases, by washing often with strong soapsuds, by softening the parts with poultices, renewing them often, until all the sores heal. In more obstinate cases, it may be necessary to use some vegetable caustic to cut off the scab. For this purpose, the fresh root of arum triphyllum, sliced and rubbed on, or, if in a dry powder, sprinkled on after the washing; that of bloodroot, or of Phytolacca decandra, or its berries, the insipidated juice of Rumex acetocella (field sorrel), or of Oxalis acetocella (wood sorrel), or, lastly, caustic potash may be used. These should be applied until the scab is entirely removed, then the washings and poultices should be used until the discharges are clear and sweet, when the sore may be healed with the elder salve.

GENUS 115. IMPETIGO.—Scaly running tetter.

Character.—“Pustules continuous, terminating in scabs; the skin often chappy.”—G.

According to the arrangement of Mr. B. Bell, all the varieties of herpes of any importance may be comprehended in the four following species, namely:

“*Herpes farinosus*, or what may be termed, the dry tetter, is the most simple of all the species; it appears indiscriminately in different parts of the body; but most commonly on the face, neck, arms and wrists, in pretty broad spots and very small pimples. These are generally very itchy, though not otherwise troublesome. After continuing a certain time, they at last fall off in the form of a white powder similar to fine bran, leaving the skin below perfectly sound; and, after again returning in the form of a red efflorescence, they fall off and are renewed as before.

“*Herpes Pustulosus*.—It appears in the form of pustules which originally are separate and distinct, but which afterward run together in clusters. At first they seem to contain nothing but a thin watery serum, which afterward turns yellow, and, exuding over the whole surface of the part affected, it at last dries into a thick crust or scab; when this falls off, the skin below frequently appears entire, with only a slight degree of redness on its surface; but, on some occasions, when the matter has probably been more acrid, upon the scab falling off, the skin is found slightly excoriated. Eruptions of this kind appear most frequently on the face, behind the ears, and other parts of the head; and they occur most commonly in children.

“*Herpes Miliaris*.—This breaks out indiscriminately over the whole body; but more frequently about the loins, breast, perineum, scrotum and inguina, than in other parts. It generally appears in clusters, though sometimes in distinct rings or circles, of very minute pimples, which from their resemblance to the millet seed, have given rise to the denomination of the species. The pimples are at first, though small, perfectly separate, and contain nothing but a clear lymph, which in the course of the disease, is excreted upon the surface, and there forms into small distinct scales; these at last fall off, and leave a considerable degree of inflammation below, that still continues to exude fresh matter, which likewise forms into cakes, and so falls off as before. The itching in this species of complaint is always very troublesome; and the

matter discharged from the pimplies is so tough and viscid, that every thing applied to the part adheres, so as to occasion much trouble and uneasiness on its being removed.

"*Herpes Exedens*.—So called from its destroying or corroding the part which it attacks. It appears commonly at first in the form of several painful ulcerations, all collected into large spots of different sizes, and of various figures, with always more or less of an erysipelatous-like inflammation. These ulcers discharge large quantities of a thin, sharp, serous matter, which sometimes forms into small crusts, that in a short time fall off; but most frequently the discharge is so thin and acrid, as to spread along the neighboring parts, where it soon produces the same kind of sores. Though these ulcers do not in general proceed farther than the cutis vera, yet sometimes the discharge is so very penetrating and corrosive, as to destroy the skin, cellular substance, and on some occasions even the muscles themselves. It is this species that should be termed the depascens or phagedenic ulcer, from the great destruction of parts which it frequently occasions. In the opinion of Mr. Bell, every species of herpes is in a greater or less degree contagious, and easily communicated by contact. In the removal of these, as well as other cutaneous affections, much depends on the employment of the means of cleanliness. The warm bath, with frictions with a coarse cloth, will always contribute to the cure.

"The remedy which I have found to produce the most speedy good effect, is sanguinaria canadensis, dissolved in vinegar, as directed for the itch. The solanum dulcamara has, in numerous instances, manifested its superior efficacy in the cure of inveterate cutaneous diseases."—Dr. Gallup.

Causes.—It is supposed that tetter in all its forms, and Psora, 118, proceed from a little insect that burrows under the skin, and that the astringents and escharotics kill it.

Treatment.—Treat all its forms as I have directed for Genus 114.

GENUS 116. LEPRA.—Leprosy.

Character.—"Laminated scabs of various sizes, of a circular, smooth form.

Varieties.—1. *Vulgaris*.—Scabs smooth and large, whitish, with red borders; covering the whole body.

2. *Allida*.—Scabs whitish, small, depressed in the center: on the extremities.

3. *Nigricans*.—Black leprosy."—G.

Treatment.—Thorough purification of the whole body.

GENUS 117. HERPES.—Tetter.

Character.—Vesicular eruption in distinct clusters; forming scabs; tingling and itching. Scarcely distinct from Genus 115.

Varieties.—1. *Phlyctanodes*.—Small inflamed vesicles.

2. *Zoster*.—Shingles.

3. *Circinatus*.—Ringworm.

4. *Labialis*.—On the lips.

5. *Preputialis*.—On the prepuce.

Dr. Good says that Galen's description of herpes is the best that can be found. It is as follows:

"An eruption of minute and crowded vesicles of the size of millet seeds, situated on the surface of the skin, filled with an acrid bilious secretion; and vesicles of two species, the one containing in its vesicles a milder and more watery fluid, called, from the size of the vesicles, herpes miliaris which ~~water~~ seems to burn or corrode; the other containing a thicker fluid of a

higher heat and color, and so acrid as actually to corrode the continuity of the subjacent skin, still creeping along in a serpentine direction as the term *herpes imports*, and hence denominated by Hippocrates, *herpes estheomenos*."

Very minute descriptions of the species and varieties may be found in Dr. Good's Nosology, Dr. Dunglison's Practice and elsewhere; but as Dr. Eberle said, and we agree with him, these hair-splitting distinctions in nosology have an unfavorable influence upon comprehensive views in pathology, and rather retard than advance the true practice of medicine, we leave the reader to look for them in other works. I have given under Genus 114, the proper plan of treatment for all the forms of tetter.

The *Indications* in all, are, to cleanse the general system, dissolve away the diseased parts, and heal them up with gentle means. For the first, a course or two of medicine, with numerous baths, and a free use of the best alternatives; for the second, the astringents in mild cases, and the escharotics in obstinate ones; and for the third, a continuation of the baths and alternatives, good food, air and exercise, and some kind of oil or soft salve to the part.

GENUS 118. PSORA.—Scabies, itch.

Character.—"Vesicular or pustular pimples between the fingers, and flexures of joints, and spreading over the body; intolerable itching terminating in scabs."—Gallup.

Varieties.—1. *Populare*.—"Rank itch. Eruption of miliary, aggregate pimples, with a papular, slightly inflamed base, and vesicular apex; pustules scantily dispersed; tips, when abraded by scratching, covered with a minute, globular, brown, scab.

2. *Vesicularis*.—Watery itch. Larger and most perfect vesicles, filled with a transparent fluid, an inflamed base; intermixed with pustules; at times coalescing, and forming scabby blotches.

3. *Complicata*.—Complicated. Eruption complicated, of pustular, vesicular and papular pimples coexisting; spreading widely over the body; occasionally the face; sometimes confluent and blotching.

4. *Purulenta*.—Pus like pocky itch. Eruption distinct, prominent yellow pustules with a slightly inflamed base; occasionally coalescing and forming irregular blotches, with a hard, dry, tenacious scab.

5. *Exotica*.—Mangy itch. Produced by handling mangy animals. Sometimes it follows small pox and other constitutional affections."—Good.

Causes.—Uncleanliness, bad state of the system; contagion. A professor in Dublin says it is an insect burrowing under the skin, and many others are of the same opinion. It is seen by the aid of the microscope.

Indications.—To purify the body, internally and externally, and to kill the insect on the surface.

Treatment.—A course or two of medicine, several vapor-baths, drinks of a tea of yellow dock, and bathing the parts in the same. Or a teaspoonful of flour of sulphur in molasses, in the morning, for three to six days, and then anointing the body at night with an ointment made by boiling sulphur in hog's lard or any animal oil, letting it cool and rubbing it all over the surface at night, three times in six days.

GENUS 119. LEPIDOSIS ICHTHYIASIS.—Fish skin.

Character.—"Hard, thickened incrustations on the skin; hard dusky rind; or scab; sometimes nearly covering the body; at other times more partial; resembling horn.

Varieties.—1. *Simplex*.—Watery rind.

2. *Cornea*.—Brown, horny rind; thickened skin.

3. Cornigera.—Scabs incurvated, horn like ; growth much elevated."—Gallup.

Causes.—As in most cutaneous eruptions or other diseased states ; uncleanliness is among the principal causes of this affection.

The *Indications* and *treatment* here are the same as for the most severe forms of herpes. The hard crust must be dissolved by caustics, and then the part often washed with soap, then with good cider vinegar and covered with antiseptic poultices, until it heals completely. See Genus 114.

GENUS 120. PORRIGO.—Scall or tinea.

Character.—“ Yellow pustules, containing a viscid fluid, forming thin yellowish scabs.

Varieties.—1. *Crustacea.*—Milky scall. In patches on the face of nursing children.

2. *Galeata.*—Scaled head. Producing scabs over the head, affecting the roots of the hair ; occurring mostly during dentition.

3. *Furfuracea.*—Dandery scall. Very minute pustules, terminating in scurfy scales.”—G.

Causes.—Uncleanliness and improper food, contagion.

Indications.—To cleanse the general system, soften and remove the scabs, and heal the part.

Treatment.—Same as for Genus 114, 117 and 119.

The character of the general habit may be modified by the local irritations.
6. *As they exist in indurated glandular textures.* Giving rise to

No. 32.—Order VI.

DIATHESIS GLANDULARIS INDURATA ET IMPOSTHUMOSA.—Hardening of the glands, with tendency to abscess.

Character.—“ It may be suggested, that tuberculated states of glands and hypertrophy of membranes, rarely, if ever, arise without some fault, some pathological state of the general habit. Changes are often made in a gradual manner, in the organs of internal relation, without the subject being made conscious of them, until some secondary train of symptoms arises. A mild pathological state may exist, and be making very slow changes in tissues of internal location even while the person is engaged in his usual concerns. These local changes are commonly excited and modified primarily by the general habit ; but, when once formed, they produce a reflex action back on the system, according to their identical irritative character, and the physiological character of the part affected. Perhaps there is no structure more complicated, and less sensitive, than the glandular, and indurations of this structure are frequent. The pyrectic habit is mild and dilatory ; it is strictly chronic, and partakes of an irritative synochal character. Whenever changes have been made of a structural kind, they may not induce much disturbance in the general habit, until some adjunct cause excites commotion in the economy of the system : whenever this proves to be the case, the local irritations will concentrate to the altered part, and inflammation be liable to become manifest. The reflex action now becomes more manifest ; and if ulceration follows, the future fever, called *hectical*, receives its chief modification from that alteration.

“ By including imposthumations in this order, we are led to a review of the hectic habit.”—G.

The proper action of the glands is of the utmost importance in the animal

economy, because the most of these secrete fluids that are indispensable to the nourishment or the motion of the system, as the saliva, the bile, the synovia, etc.

FIRST SERIES.

GENUS 121. CARCINOMA VULGARIS.—Cancer.

Character.—“ Irritative pyrectic habit, with dingy countenance; hard or schirrus tumor, commonly in the secerment glands; of a leaden color; knotted to the feel; attached to the skin, which is pucker'd, and to the muscles [and sometimes the bones], making it fixed; occasional darting pains; intersected with ligamentary bands; terminating in an ichorous phagedenic ulcer; partially healing, then becoming aggravated.”—Gallup.

This form of disease is called cancer, from the resemblance of the tumor to a crab, having a hard lump in the center and apparent branches issuing from it in different directions, so that, when it is withdrawn by means of astringent applications, it often presents these branches or roots, in a manner somewhat resembling the legs of that animal. These are formed as follows:

In the glands, or other very vascular portions of the system, as the face, the stomach, the uterus, etc., where the circulation is weak or sluggish, the sensibility is low, and the anastomoses are numerous, morbidic matter extraneous or effete, is readily deposited on any irritation within or contraction of the surface by cold.

If this morbidic material, is very corroding in its nature, it will soon abrade the parts involved, and form an ulcer increasing in size, decomposing the tissues, and of course, cutting off the circulation from the surfaces to which the vessels, nerves and other tissues thus destroyed, were distributed; and leaving those organs to mortify and to involve others in their ruin, until the material thus reduced to putrefaction, is sent, by the centrifugal force of the circulation, to that surface, and discharged, and we call it an ulcer, or boil, etc.

But, if the foreign matter is not very corroding in its nature, it does not destroy the living fibers; it only presses in among them, makes a dense deposit in the center for the body of the cancer, and then fills up the vessels which lead to that center, pressing them in such a manner as to paralyze, to a great extent, their physiological action, though not so much as entirely to destroy them, but rather to leave to the vital principle the supremacy over the chemical, sometimes for many years before lesion takes place. And even when the morbidic deposits and their inherent chemical agencies, get so much the upper hand as to overcome the vital affinity, and commence the lesion or decomposition of the part, the putrefactive process is very slow. If, now, by purifying the general system, you promote absorption, you will reduce the proportion of the morbidic matter, and restore the balance of power to the vital part and the ulcer will heal partially or wholly. But for the want of perseverance, the roots, not being all removed, in process of time accumulate, especially about the edges of the old sore (the hard ridges of which are caused by the larger portions of these roots which have not been decomposed), and break out again; and thus the battle between the vital agent and the chemical affinities goes on, in favor, sometimes, of one and sometimes of the other, for months and even years; until the morbidic matter, becomes so extensively diffused through the system, that it obstructs the organs, overcomes the vital force, and rapidly progresses from the point of its origin, until it produces terrible lesion of not only the glands, but the muscles, and tendons; and it even sometimes demolishes the hardest bones.

On account of the dreadful ravages it commits in its latter stages, cancer has been supposed to be "the highest degree of canker and putrefaction," but it is, in fact, the lowest, or it would eat up the parts in which it is deposited far sooner than it does. Indeed it is the great difficulty of producing the complete putrefaction and disengagement of all the morbid matter composing a cancer, that renders it so difficult to cure. Were it far more corroding than it is, it would soon destroy all the living fibers that ramify into its mass, become itself purulent, and be entirely eliminated from the system. But, not being very corrosive, or much disposed to putrefaction, it is capable only, when in small proportions to the living mass, of simply hardening itself among the vessels, and so paralyzing their action as to prevent them from removing it; and hence, so frequently, its roots preserve their hardness and tumescence among the flesh about the ulcer, after the body has been cut away by the knife or escharotics, or by virtue of its own superior proportions over the living matter, and consequently of the predominancy of the chemical affinities over the vital. Nor would it be so difficult to cure in its latter stages, but that it seizes on those very organs whose full and universal action is indispensable both to the cure of the disease, and to the maintenance of even life itself. Thus in a word—

Cancer is a deposition among the glands and other vascular portions of the system, of matter of the *least* corroding kind, accumulating by degrees of velocity, always proportionate to the ability of the system to depurate itself, and remaining nearly unchanged, until, by its obstruction to the circulation and the nervous action in a part, it gives power to the inorganic agencies to produce lesions, which are more or less extensive, according to the weakness and vascularity of the part, and fatal according to the inability of the system to protect itself from the morbid aggression, or remove the offensive matter.

Hence we see the reason why cancer is so seldom cured by the knife. You may cut off its head; you may even remove the main branches of its roots: but you can never reach their extremities, which for aught you know, may, at an early period, have penetrated the very citadel of life. If you cut deeply, you may cut out so much that the wound will heal and remain so for years, but the roots are in the system, and, like the remains of the polypus, they will vegetate again and again, and spread deeper and deeper, until they penetrate and command the inner temple of the body. The knife can do nothing now.

Hence, too, the failure of the severest escharotics, as nitrate of silver, corrosive sublimate, arsenic, etc., which, though they cut fast while they are applied, can not be suffered to act long enough, to remove all the roots, lest they penetrate the system—poison its substance and arrest its physiological action, worse than does the matter they are used to remove.

From the above description of the nature of cancer, its cause and modes of attack, progress and effects, it is plain that the

Indications in the incipient stage, are, to cleanse the system of all morbid matter, to equalize the action, promote absorption and secretion, and maintain the general health.

Treatment.—The indications are generally fulfilled by courses of medicine, relaxing and stimulating alteratives, tonics, good food and moderate exercise in a pure atmosphere. In more advanced cases, where the tumor is solid, and refuses to yield to these influences, the indications are, to produce and to promote, in addition to the above, suppuration of the tumor and its branches, *by the use of means that possess the power to dissolve the semi-vital or cancerous matter, without being able to destroy the fully healthy parts, or to poison their fluids.* Such must ever be the character of all the articles which are directly

useful or proper for the removal of cancerous tumors. I have analyzed or purchased a number of those nostrums which have been more or less celebrated for usefulness in the treatment of carcinoma, or cancer, and found them to consist in either acids, alkalies, salts, or tannin, the former so diluted as not to destroy the healthy flesh, and the latter so weak that it can not impede vital action, but yet so strong as to tan the morbid or cancerous matter, so as to facilitate its removal by the vital process, or by the withdrawal, with an instrument, of the "body," or main original deposition, and of the roots or branches from the vessels into which they had ramified. The acids, alkalies and salts promote suppuration, and hence you see no "roots" after their application, but the astringents tan and collect together the dead matter, and enable the practitioner to draw it out all together. When the suppuration is complete in the one case, and the roots are removed in the other, the parts should be healed up under the use of poultices of charcoal, gum myrrh and slippery-elm and soft salves as the elder salve, etc.

The means by which these objects are attained, are, first to last, occasional courses, baths very frequently, and the constant use of the best alteratives, as boneset, burdock, sarsaparilla, dandelion, etc., with the antiseptics, as the acid fruits; the gums and resins, as myrrh, balsam of fir, etc. These are for the purification of the general system. For the local affection are used various articles of the characters above mentioned. The object here being to kill, it has been thought that any poison may be used for the purpose. But, though we must use something that will cut away the semi-vital flesh, it must not be mercury nor any other substance which, when it once gets hold of the system, can not be arrested in its progress. It must be something which, though corroding in its action, can be washed out or neutralized at once, to the complete destruction of its influence. Such are the vegetable acids, as the oxalic, and the alkalies, as potash. The former is best used in the form of inspissated juice (upon glass or Britannia plates) of oxalis acetosella or of rumex acetocella (milder), and the latter, of caustic potash, made of the ley of the ashes of white oak, hickory, white ash or elm bark; or of purified caustic potash, a very severe article prepared by the French, and kept in sticks in close stopped vials. Several salts, as bichloride of mercury, sulphate of zinc and copper, have been used by allopathists; but, at least, the first is altogether inadmissible, as the disease it produces is worse than the one that it is given to cure!"—Reece.

In case the tumor can not be absorbed away by courses, alteratives, poultices, of flax seed, slippery-elm, lobelia, yellow pond lily, bitter herbs, etc., and yet the surface over it is sound, a small piece of the caustic potash may be moistened and put upon a cloth and bound upon the head of the tumor, and left, if the pain is not intolerable, until it spends its strength. After the patient has rest, it may be repeated until the surface is eaten off and the tumor is exposed; or, if there is no danger of hemorrhage, you may cut out the same quantity with the knife, which will produce less pain and of but momentary duration. If the vessels bleed much, wash the wound with a strong decoction (cold) of bloodroot, sumach or geranium, etc., and dust into it the fine powder of those roots, until the hemorrhage is entirely arrested. Now you may commence either the suppurative or the astringent course, as you like. The former consists in applying the caustic potash, or the sorrel extract, alternately with poultices, until all the hard parts are removed and the vessels and cells containing the ramifications are completely disengaged of their offensive matter, when the sore will smell no worse than one from a fresh wound; and then healing it up under a poultice of lily root, lobelia, charcoal,

dregs of number six, and slippery-elm; using occasionally, a little of the caustic where the parts are hard and refuse to heal. I have known this process to cure a considerable number of cancers, some of which were very bad; and I have known it fail to cure others either for want of judicious and faithful application, or because the cancerous matter had so completely pervaded the system that the vital processes were unable to dispossess it.

Many other articles have been used, and sometimes with success, though they are of more doubtful safety and utility. It is said that the inspissated juice of poke berries (*phytolacca decandra*), or of the root, or its dry powder (*Thacher*); of *prenanthes altissima* (tall milk weed); of *lactuca* (lettuce); of *arum triphyllum* (Indian turnip); sulphate of iron (*copperas*); carbonate and muriated tincture of iron; acetate of copper, and marsh rosemary, have been found useful. Water from chloride of lime, poultices of charcoal, slippery-elm, carrots, dregs of number six, etc., are good to destroy the disagreeable fetor, and cleanse the parts.

Some famous cancer curers, particularly Dr. Whitlaw of London, are of the opinion that no caustic or irritating substance that produces pain should be used, and I am inclined to think that, except the knife and the caustic potash, which do the work at once, they may be right. General treatment to purify the system, cutting away the tumor with the knife or the caustic, and promoting discharges, cleansing and finally healing the sores, is the true plan of cure. The diet should be of the purest kind, simple in character, moderate in quantity, and taken at regular intervals.

The course that I have recommended may not always succeed, but it affords a better prospect of relief than any thing that the faculty have prescribed.

For applications, see recipes.

I have never seen but one case of genuine fungus haematoës; that was so far advanced that I did nothing for it. I believe that this form of disease is seldom cured after it is fully developed and has thoroughly pervaded the system. In the early stages, the general depurating and invigorating course, with wholesome food, pure air, and moderate exercise, is the proper one.

GENUS 122. SCROFULA.—*Struma vulgaris*. King's evil.

Character.—“Indolent tumors of the glands of the neck, groin, armpit, mesentery, etc., with little pain; slow in suppurating and tardy in healing; skin of the tumor retains its natural color; tumor movable. The common habit delicate, skin smooth and florid, upper lip full.”—G.

Causes.—Improper, irritating or corroding articles of diet, impure air, etc., affecting individuals possessing a sluggish circulation. The tumors are formed in the same manner as cancers are, to which this form of disease is very nearly allied. Like cancer also, it continues its ravages by means of excoriating, offensive exudation on the surface, and is diffused by absorption within, until it pervades not only the glands but the muscles and the bones. No part of the system is entirely exempt from its ravages.

The *Indications* are, to purify the general system, to reduce the tumors and heal the ulcers, and tone up the whole man.

Treatment.—The first indication is effected by means of a general course and the alterative treatment, and the second by poultices of slippery-elm, charcoal, lily root, dregs of number six, or any other relaxing, antiseptic and slightly stimulating articles. The baths should be used very frequently, and medicated with aromatic and antiseptic articles, as the various mints, cayenne, vinegar, etc., and great care should be taken that the food be of the best quality, moderate in quantity, and thoroughly masticated, and that the

exercise be regular and in a pure atmosphere. From the very nature of the case and the causes that produce the disease, the process of cure will be tardy, and will require patience and diligence and long perseverance. Our vapor-bath and lobelia treatment, however, has often proved a sovereign remedy for it. Much use should be made of the best antiseptics, slippery-elm, gum myrrh, charcoal, cayenne, vegetable acids, etc., as in cancer.

GENUS 123. GOITRE.—Bronchocele, swelled neck.

Character.—“Elastic tumor of the thyroid gland; extending largely and affecting the cellular tissue; incident to young people in mountainous countries; destitute of redness or inflammation; not liable to suppurate.”—G.

In this country, this form of disease so seldom proves fatal or even painful, that many endure it through a long life without ever making a single attempt to cure it. One of my aunts had this tumor from her childhood to nearly seventy, and it gave her very little trouble except sometimes a slight dyspnoea. My mother has had it from her childhood. She is now gone to her rest. For the last ten or fifteen, perhaps twenty years, of her life, it gradually diminished. It never did her any great harm. As it is, however, a disagreeable appendage to the neck, and, at least in its early stages curable, we may as well make the attempt.

Indications.—To purify the system and reduce the tumor.

Treatment.—This I have done in two instances (the only ones I ever tried). In the first, by giving a few courses, and bathing the part with tincture of lobelia. In the second, by the bathing alone.

GENUS 124. TONSILLA INDURATA.—Swelled and indurated tonsils. Liable to impede deglutition.

Causes.—Cold; inactivity of the general system; irritation of the throat by poisons.

Indications.—To equalize the circulation, attract the inflammation to the surface, and restore the healthy functions.

Treatment.—The *regular* practice has been to burn out the tonsils with caustic (Prof. McLellen), but of late, they have been scarified and excised. This course is as unnecessary as it is savage and cruel. I have treated many cases and have found no serious difficulty. Equalize the circulation, promote perspiration and put a poultice, sprinkled with cayenne on the neck; or wear round it a flannel bandage often wrung out of a strong decoction of cayenne in vinegar, gargle the throat often with astringent and stimulating fluids. This treatment, with an emetic occasionally, will cure most cases in a few days.

GENUS 125. TUBERCULUM.—Emphyema sarcoma tuberculosum. Tubercle.

Character.—“Very small indurations, situated in the internal organs and membranes; so minutely as scarcely to be seen, but, as they become enlarged; they may be of the size of millet seed or larger. They are liable to suppurate in clusters, or in their envelops, and afford an imperfect purulence; rarely taking on the incarne process; ending in the destruction of the respective organs or membranes, attended with hectic fever. Names have been given to it, derived from the organ where it is located; as gutteris, of the throat; tracheæ, of the trachea; pulmonum, of the lungs; stomachi, of the stomach; hepatis, of the liver; splenis, of the spleen; mesenterii, of the mesentery; omenti, of the omentum; intestinorum, of the intestines; mem. serosæ, of the serous membranes; mem. mucosæ, of the mucous membranes, etc.

“The cancerous and scrofulous tumors and ulcerations, together with tubercles and a carnified state of the membranes, include a considerable portion of

the catalogue of diseases; especially if we might add to these, the various ulcerations occurring externally."—G.

The *Causes* of tubercle, are as numerous as the impediments to free and full vital action in the system; as hereditary taint, a feeble constitution, bad nursing, food, dress, air, exercise, shape and habits of body, temperament and disposition, passions, particularly grief, anger, melancholy; climate, any disease which debilitates the system (Eberle), blood-letting (Hall, Gross, Eberle), calomel, and poisons in general. I have said that tubercles are occasionally found in almost all parts of the body, and I here add that they have been generally found in the lungs, when they have been found anywhere else.—See Dunglison.

It has been frequently remarked by medical writers, that, though tubercles are not removed by art (Dunglison, Dewees), yet they are sometimes cured by the efforts of nature. This shows that tubercle is formed in opposition to the efforts of nature, and, of course, if cured by art, it must be done by means and processes that act in perfect harmony with nature.

Now, as the lancet, and all sorts of poisons, act in direct opposition to nature, it is not wonderful that they have not been generally successful in removing tubercle. It would be a wonder of wonders if *they ever* cured it, though there may have been cases in which a cure has been effected by the efforts of the system, even in spite of the loss of so much blood or the poisoning of the balance. Still, as I shall remark hereafter (*phthisis pulmonalis*) tubercle, being the result of great debility or poisoning, is not easily removed by the most rational and efficient practice.

The *Indications* then, are, to cleanse the system of all morbid matter, and to restore proper action to the exhalents and the digestive apparatus as well as to every other in the system.

Treatment.—Courses of medicine, once, twice or thrice a week, as the case may require, using composition or cayenne and the canker teas, and taking great care to get the surface and the bowels into proper action by means of the bath and enemas, and the feet warm by friction with cayenne and vinegar or some other stimulating liniment. It will now be important to keep up a constant purification of the system by the use of the best alternatives, as boneset, burdock, spikenard, sarsaparilla, golden seal, bark of wild cherry tree, alder, ptelea, poplar, asarum or wild ginger, motherwort, tansey, balmony, arch-angel (*lycopus virginicus*), or any innocent, relaxing and stimulating bitter or aromatic.

When the lungs are stufted and there is difficulty in breathing, some kind of cough mixture consisting of relaxants (nauseants), aromatics and stimulants; as hoarhound, nervine, bitterroot, skunk cabbage, lobelia, and a little cayenne, or ginger, should be used merely for present relief, and then the chief dependence should be placed on your efforts to bring the action to the surface, by means of stimulating plasters to the neck, breast, etc., thus giving relief to the organ which is more particularly attacked. See further remarks on *phthisis pulmonalis*.

GENUS 127. PHTHISIS TRACHEALIS TUBERCULOSA.—Tubercular consumption of the trachea, often called bronchitis.

Character.—"Pain slight and transient; cough, with hoarseness and loss of natural speech; dry at first, followed by expectoration; pulse frequent; hectic fever."—G.

I consider bronchitis rather as a simple inflammation, than a tubercular affection of the bronchial tubes.

Causes.—This form of disease may be produced by whatever can produce tubercle in general, but it is very frequently produced by speaking long and loud in a hot atmosphere, and then going immediately into a cool one. Hence, public speakers are frequently afflicted with it, and ladies who, usually in the habit of dressing their necks warm, occasionally bare them to their shoulders in cold, damp evenings, and ride to balls and parties, and what is still worse, ride home again in the same plight, in a cold, damp atmosphere, late at night.

The practice of wearing stocks on the neck, especially in warm weather, by over heating and sweating the trachea, and rendering it liable to take cold after the excitement of speaking, is a fruitful source of phthisis trachealis.

Indications and *treatment* the same as for Genus 126. Great care should be taken to clear the system effectually of all morbid matter, to attract the inflammation to the surface, by stimulants and rubefacients, and to soothe the internal parts, by the use of slippery-elm, gum arabic or other mucilaginous material. But this should be given very often, and the alterants and tonics mentioned under the last genus should be used. Good food, air, exercise, and a cheerful disposition are indispensable.

GENUS 128. PHthisis PULMONALIS TUBERCULOSA.—Tubercular consumption.

Character.—“Slight and transient pain in the side; alternate chills and heat, especially in the afternoon; often heat in the palms of the hands, and soles of the feet; slight, ineffectual cough, sometimes attended with small hemoptysis, and eventually with a copious expectoration of muco-purulence; shortness of breath, especially on exercise; circumscribed flush on one or both cheeks; pulse one hundred to one hundred and twenty in a minute, small and hard. Most liable to occur between the ages of twenty-five and thirty-five, in habits slender, impulsive, and easily fatigued; having skin rather pale, and streaked with small blue veins; teeth and adnata of a cretaceous whiteness. Fever chronic; degenerating into hectic; emaciation; occasionally a disposition to vomit; an unusual degree of heat, pain and oppression of the breast; spittle saltish; spirits depressed; appetite bad; thirst great; flushes after eating; fingers small, nails bent inward and purplish; loss of strength; sinking of the eyes; difficulty of swallowing; cold extremities; loss of breath. Toward the close, night sweats, diarrhea, edema of the feet”—G.

Of this form of disease, Dr. Gallup says (Inst. vol. ii, page 244): “Of all the maladies which have visited and afflicted the human family, this has constantly borne the supreme sway in the middle latitudes; so that pestilence in every form of plague, cholera, fever, fluxes, etc., dwindles into little comparative importance. It pursues the even tenor of its course, while those have long respites between their visitations.

“Notwithstanding so many have been engaged, with the best motives and most tender solicitude, to discover some remedial agent, yet, according to some of the most recent reports, the whole world still remains in ignorance in a therapeutic view, as profound as before the flood; and all the labor is lost for the want of a right application of the knowledge obtained; or for want of a generalization of facts, or correct theory. Even the veteran Dewees, who seems to have soared above many of his fellows in his intrepid practice, prostrates the standard which his arm sustained through many conflicts, and says, while devoting fifty-two pages to the subject: ‘We fear we declare too solemn a truism when we say we do not believe that phthisis, properly so called, has ever been cured by art.’”

Here then, the point is settled that the regular faculty can not cure consumption. And that the reason probably is, they do not understand the true "theory" of its nature; and the proper remedies and modes of their application. If, therefore, we too, should fail, we can not be blamed; for we do not pretend to be more talented or generally learned, or less benevolent than they are. But we will attempt to throw some light on this dark and difficult subject, and to dissipate something of the gloom from the sad picture they have drawn. The character (from Dr. Gallup), gives us no knowledge except by inference, of the causes of this form of disease, or the indications of cure. Of course, those who know so little of the nature and character of disease, are not qualified to attempt the cure. We believe that, among all the operators in society, there is no other class of men that attempt so much as physicians do, when they know so little whether they are right or wrong, curing or killing.

Consumption of the lungs, what is it? One would think the mere name sufficiently expressive. But why should consumption of the lungs be so much more fatal than any other form of disease? For the plainest of all reasons; the lungs are not only an organ in the body, indispensable to the performance of the office of vitalization and preparation of the ingesta for nutrition; but, being the last in the series of that process, they partake the most largely in the end, of the sufferings of all the vital organs, as the salivary glands, the stomach, the liver, the mesenteric glands and the heart, which precede them in the grand process indispensable to the sustenance of the body. It is a proposition well understood, in all the ordinary operations of nature and of art, that, when the first of a series experiences any obstruction, the evil accumulates as the action progresses, and that the last apparatus in the series, if the former endure the accumulations thrown upon them, receives the severest shock of all. This is particularly the case in the vital operations, where the due performance of all the preceding functions, is indispensable to that of any after the first. Thus, if what is taken into the mouth, be not well masticated and insalivated, the digestion is worse performed, and the chylification and absorption are still worse, if at all. The heart then throws but a miserable material into the lungs for vitalization; this last process, is still more miserably performed, and now, the poor scanty blood thus manufactured, is thrown into different parts of the system, among which are these very organs, the salivary glands, the liver and pancreas, the lacteal glands, the heart, the lungs, etc., rendering them less capable of performing their duty than they were before, and the evil effects continue in geometrical progression, extending farther among the organs of the vital process, until the lungs, being the last in that series, receive the whole force of the disease, from which they are totally unable to extricate themselves. Hence it is that so many forms of disease terminate in consumption. And how much must all these evils be aggravated when the food taken is bad, the vital regions are so cramped by lacing that the organs are prevented from receiving their due share of blood and air, the peristaltic action of the bowels is destroyed, and the medicines used to cure are rank poisons!

If this be a true statement of the case, and I am sure that it is, it follows that the lungs undisturbed by the causes or the effects of disease in other organs, are as capable as other vital organs of defending themselves from injury, or of recovering from slight depressions on their action or integrity. Hence, bronchitis, often, and even tubercular phthisis, sometimes, are cured "spontaneously," and cases have occurred where persons have lived for years in tolerable health, after the total loss of one lobe of the lungs. Indeed,

half of the fashionable world at the present day, live by the one half of the proper expansion of the lungs.

Causes.—It is easily seen, from the above considerations and others which they suggest, that, though the exciting cause of consumption may be a cold, or the repercussion of some cutaneous eruption, etc., yet the remote and most common causes are, whatever may, in any way interrupt the free and universal action of the vital principle through all the organs of the body. They will be found in our food, which may be innutritious or noxious; in our clothing, which may be disproportionate to the temperature of the atmosphere, improperly distributed over the system, or annoying to some of its organs; in the air we breathe, in the character of our exercises and habits, in blood-letting and poisoning, and even in starvation and melancholy!

Indications.—The indications are to remove all the above named and other similar causes; to relax the general system and equalize the circulation, to make, as far as possible, all the other organs of the body perform their duties, to relieve the lungs as far as you can, of whatever directly oppresses them, which will be discovered by the symptoms as they rise.

Treatment.—“It is now the opinion of all well informed pathologists (says Laennec), that *the tubercular affection*, like cancer, is *absolutely incurable*. The observations contained in the treatise of M. Bayle, as well as Laennec’s remarks on the development of tubercles, prove how illusive is the idea of curing consumption in its *early stage*. ‘Nature and art may retard or even arrest their progress, but they can not reverse it.’”—(Good, vol. ii, page 39.) “I can distinctly aver however, that I have seen it terminate favorably in one or two instances, where the patient appeared to be in the last stage of disease, with a pint and a half of pus and purulent mucus expectorated daily, exhausting night sweats, and anasarca: but whether from the treatment pursued or a remedial exertion of nature, I will not undertake to say. Dr. Parr affirms that he has witnessed six cases of decided phthisis recover spontaneously.”—(Ib., 38-9.)—G.

From the above quotations, to which others of similar import might be added to any extent, we discover that the most learned physicians of the allopathic class, do not expect to cure either consumption or cancers, though they admit that both are sometimes cured by the simple efforts of nature. This amounts to a confession that their treatment does not aid nature, but rather hinders her. I have quoted these testimonies to show that, if I should throw no light on the treatment of this justly dreaded devastator of the human family, I should not fall behind my friends of the allopathic school.

In the first place, as I have already remarked on its causes and character, consumption is difficult to cure, on account of the fact that it is seated in the organs whose healthy functions are indispensable to life. Disease may attack an extremity, or any organ which can be dispensed with, and be removed after it has partly or entirely destroyed that part or organ. But the lungs must vitalize the blood, or the whole man dies. Our wise and benevolent Creator, in the formation of our bodies, provided, in every vital organ, an excess of material and power over what was necessary merely to support life, and this excess is for purposes of enjoyment in health, of protection from the attacks of disease, or of restoration to health after depredations on the organs have been actually committed. Now suppose that, in the lungs, this excess is one third (and I am inclined to think it is quite as large a proportion), it would follow that, provided the rest could be perfectly sound, one third of the lungs might be wasted by tubercle, and yet the patient would live! If only one fourth were wasted, he might recover, because there would

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case, though apparently not so bad, refuses to yield to the most judicious treatment.

I have premised the above remarks to advise the young practitioner of the danger of promising to cure every case of consumption he may meet, but not to prevent him from making the attempt, for I believe that some confirmed cases have been cured, and that others may be, by something like the following process. See the indications.

Whatever may be the stage of the disease, the first step is to equalize the circulation, which should be done by the use of relaxing and diffusive stimulants, an emetic, an enema or more and the vapor-bath, also by using expectorants to relieve the lungs, for the present, of their morbid accumulations. These may consist of lobelia, nervine, skunk cabbage, hoarhound, bitterroot, boneset, elecampane, etc., made into a sirup or a strong infusion.

The next point is to bring the action of the system to the surface and lower extremities, and maintain it there. This must be effected by the internal use of diffusive stimulants, as boneset, hoarhound, sage, motherwort, sarsaparilla, ginger and cayenne if necessary, and the frequent application of the vapor-bath and stimulating liniments to the external surface, especially to the lower extremities, during the intervals between the vapor-baths. This is all important.

It is a great error to suppose that consumptive patients should be continually taking stimulating expectorants. These should be taken when the lungs are evidently burdened by the accumulated phlegm or pus; but, as soon as that is removed, the patient should take into the mouth, the mildest and most lubricating articles, as gum arabic, slippery-elm, etc., while the irritants should be applied to the surface. A little nervine with a few drops of a sirup of lobelia, or an inhalation of its vapor, now and then, will keep up that degree of relaxation which is necessary to prevent the irritation that provokes a cough. And great care should be taken to keep the bowels in action by the use of enemas, or, at most, a little blackroot, or dried beef's gall, in the form of pills; golden seal, bitterroot, butternut extract, etc., with some diffusive stimulant, as caraway seed, peppermint, spearmint, fennel, etc., but in no case should the bowels be moved so rapidly as to produce excessive or watery discharges.

The emetics should be repeated once, twice, or thrice a week according to circumstances, and should be light, just sufficient to throw off the phlegm and canker from the stomach, and followed by the use of relaxants and stimulants, as the various alterative bitters; a reasonable amount of which, with the bath and liniments, should be continued to keep the whole system in a healthy action. The better this is done the less emetics will be necessary.

Physicians have objected strongly to our giving emetics so freely in this form of disease; but, according to their own testimony, *they* have done more good with these than with all the other means they have used, notwithstanding they have used for the purpose the poisonous antimony, copper, etc. (See Good, vol. ii, page 59.) *They* repeat them "three or four times a week," (Ib.) which is quite as often as we would give them. "Emetics," says Dunglison, vol i, page 374, "were at one time regarded as specifics in phthisis; and a great majority of the reputed cures of consumption related by different authors, have either been performed by emetics or by decidedly nauseating remedies."

Many articles of food and medicine have been supposed to exercise a special control over this form of disease. They are such as rye and barley mush, oatmeal bread, Iceland moss, arrowroot, slippery-elm and other mucilaginous

substances; new milk from the cow, the mild fruits, as strawberries, raspberries, gooseberries, currants, cranberries, cherries, plums, apples, pears, peaches, figs, blackberries, etc., all which act medicinally while they nourish the organs.

And various articles called medicines; such as boneset, bloodroot, sarsaparilla, liquorice, senecio obovatus, elecampane, hoarhound, motherwort, sage, skunk cabbage, nervine, lobelia, etc., are very useful. But there is no such thing as a specific for consumption. If any of these articles are better than others for the disease, it is because they are better calculated to purify and tone up the system than those to which they are preferred. The great point is to preserve the healthy condition of the system, by proper food, exercise, respiration, cleanliness, pure air, cheerful temper, etc., and by medicines to prevent as well as to cure it. By these means I have prevented many a case of consumption, and cured not a few that were fully established, some of which were near the last stages.

If any one is dissatisfied with this description of the disease, or the modes and means of cure, let him read that of Good or Dunglison, and he will rest contented with my statement, that consumption is the terminus or the result of a great number and variety of other forms of disease.

The reduction of vitality in whatever form, favors the production of tubercle. All physiologists agree that blood-letting, and "all poisons" directly "reduce the vitality of the system" (Waterhouse), and that there is not one among them all that does it more effectually (Graham), and uncontrollably (Harrison, Chapman), than mercury; and, as "opium irretrievably ruins innumerable infants" (Crit. 76), this drug may take the third power in the production of consumption. Hence there is not a more fruitful cause of consumption among civilized men, than the "regular practice of medicine." This is a hard saying, but as I know it to be true, it is my duty to declare it.

GENUS 128. PHTHISIS APOSTEMATOSA.—Abscess of the lungs.

Character.—"Dry cough; obtuse pain in the chest at a fixed point; inability to lie on the opposite side; hectic fever; at length a sudden and copious expectoration of purulence; liable to repetition."—G.

Causes.—"Chiefly the result of repeated hemoptysis."—Good. May be caused by any thing that irritates the lungs or that debilitates the general system. See Genus 127.

Indications.—To equalize the circulation, cleanse the general system and secure a determination to the surface and lower extremities.

Treatment.—The treatment of this form of phthisis, will not differ from that of the preceding, but the results will be different. You will be unable to remove either the cough or the soreness, or to promote expectoration of matter, until after the breaking of the ulcer. If suffocation does not take place, and the matter is freely thrown up, the patient may soon recover, as the balance of the lungs is generally more sound in this form of the disease than in the tubercular. The same care is necessary in regard to diet, exercise, dress, habits of body, air, etc., in this as in the preceding, and in every other case of disease.

GENUS 129.—VOMICA.—Apostema vomica: Vomiting of pus. Internal abscess.

Character.—"A collection of purulence (pus) in some of the organs of the great cavities; preceded by more or less signs of inflammation; discharged, either by some natural outlet, or retained in natural cavities."—G.

Treatment.—The only treatment which can avail any thing here, is the general one, which clears all morbid matter from the mucous passages and the surface; and promotes the depuration of the whole man; which is effected by courses, alteratives, the bath and stimulants to the surface, thus promoting absorption, and, of course, a resolution of the threatened apostem (abscess). Should this process fail, it becomes one of the five following:

GENUS 130. EMPYEMA.—Apostema empyema. Purulent matter in the thorax.

Character.—“After more or less pneumonic inflammation, rigors and heats; short respiration; expiration the most difficult, from the accumulation of purulence in the thorax, pressing the diaphragm; inclination to lie on the left side; elevation of the ribs of the oppressed side; hectic symptoms.”—G.

Remarks.—The determination of the pus gathered in any place, depends mostly on the determination of the vessels that pass through it. It is evident that pus, as it accumulates, produces destruction of the blood vessels, veins, lymphatics, muscular and cellular tissues of the part. These organs are distributed to and toward different surfaces. Their supply of blood and nervous energy being cut off, they decompose and become themselves pus, and afford channels for the egress of the matter accumulated in the abscess. A poultice of very relaxing and slightly stimulating materials over the part, so loosens the vessels as to promote resolution before the abscess is really formed, or a determination to it, of pus already accumulated. Thus it proves, in the first instance “scattering,” and in the second, “drawing” (inviting), though it acts just alike in both cases.

If the principal vessels, nerves, etc., of the locality, should determine to the external surface, the abscess, though very deeply seated, would tend to that surface. If they should be distributed to any internal surface, the abscess would follow their direction, as water poured into a hollow stump, would follow the channels made by the rotting of the roots under ground. This would be the case in a well balanced state of all the other parts of the system. But the general derangement of the system, often overbalances the tendency of this law. Thus, in some cases, the dry state of the surface, often ignorantly neglected by patients, and shamefully so by practitioners of medicine, not only determines the fluids, which would naturally go there, to the internal canal or the kidneys, producing diarrhea or diabetes, but first confines morbid matter in the system and makes it form abscesses, and then determines the matter of those abscesses to internal surfaces, which, though their natural vessels are smaller and less numerous, are yet, in consequence of their warmth and moisture, more expanded and inviting to the hydrostatic equilibrium.

It is evident here, that a proper attention to the surface, by frequent bathing while in health, would have so depurated the system as to prevent the formation of abscesses, or, in cases in which, from any temporary neglect, they are matured, they would be compelled to determine toward, and be discharged at, the external surface, or the mucous, which is the next to it in point of safety. This explains the fact that internal abscesses are always found connected with, and are almost always a consequence of, suppressed perspiration, diarrhea, diabetes, or, at least, great prostration of the centrifugal force, or depurating power of the system. It shows too, the folly of every species of reduction of those powers, as by the lancet and poisons, and the importance of keeping up the general action in the treatment of all forms of disease, as well as of preserving the general health.

Treatment.—The treatment of this form of disease, so far as it can be relieved

by medicine, has already been given. (Genera 128, 129.) If this utterly fail, after a diligent and faithful trial for a reasonable time, and it be certainly ascertained that pus is discharged into the chest, the patient may be tapped as directed for the dropsey of the chest (hydrothorax), and the succeeding treatment should be the same as directed to prevent the accumulation of fluids or the formation of abscesses.

GENUS 131. APOSTEMA HEPATICUM.—Abscess of the liver.

Character.—“Shiverings; fullness, and tenderness in the right side, preceded by more or less signs of hepatitis; yellow countenance; hectic symptoms; liable to be discharged, externally, by adhesion to the parieties of the abdomen and the formation of an orifice through this wall; or internally by the ductus communis, or into the abdomen; or, by adhesions, into the intestinal canal, or into the thorax.”—G.

The *Indications* are the same as for abscess generally. The treatment has also been given, except that, when the abscess is about to be discharged, it may be aided by a surgical operation.

GENUS 132. LUMBAGO APOSTEMATOSA.—Lumbar abscess.

Character.—“Preceded by dull pain and tension of the loins; shiverings; impediment to an erect posture; commonly a tumor and fluctuation of matter below Poupart’s ligament on the thigh; diminished by a recumbent position and by pressure. Liable to be discharged below Poupart’s ligament, on the loins or exterior to the sphincter ani.”—G.

The same *Causes* that produce abscesses elsewhere (see apostem), may produce them in the psoas muscles; any interruption to the full and free action of the vital principle; and hence it is, that this form (or rather locality) of abscess, is frequently among the sequelæ of the regular blood-letting and poisoning treatment.

Treatment.—The purifying course as heretofore recommended, with poultices to the part to which the abscess seems to be tending, until it is ripe, when it should be lanced; then poultice until it is well cleansed and even healed, constantly keeping up the alterative treatment and attending strictly to the surface.

GENUS 133. MORBUS COXARIUS.—Malum ischiaticum. Hip disease.

Character.—“Abscess of the hip joint, with caries of the acetabulum. Accompanied with hectic phenomena; preceded by slight, obtuse pain in the knee, ankle or groin; inability to use the limb, or maintain an erect position; pain on moving the hip joint; shrinking in the size, and an elongation of the limb; sometimes an acute disease, but often chronic; frequently a displacement of the head of the os femoris, with shortening of the limb.”—G.

This is often one of the very many results of a depression of the vital powers by mal-practice in acute forms of disease. We knew a young man some years ago, who took a cold; had a fever, went to bed and was doctored with mercury and other poisons for a few weeks, when he arose from his bed with one foot some four or five inches shorter than the other! The head of the femur was doubtless eaten off by the mercury.

The *Indications* are the same as for the last Genus; and the treatment will be varied only by the locality. Every appropriate means should be used to prevent the production of abscess in the hip joint, and, in the early stages you may succeed; but I have seen no case cured after it had progressed so far as to displace the femur from the socket, especially if the head was eaten off.

While the head is firm, it is usually turned upon the back of the ilium, so as to bring the knees and toes inward upon the other limb, and to shorten the one that is diseased. In this case, the dislocation may be corrected and the case cured.

GENTS 134. CARBUNCULUS.—Phyma. Sty, Boil.

Character.—“An imperfectly suppurative abscess, with a sordid gangrenous core; preceded by a vesicular, burning tumor, highly inflamed.”—G.

Causes.—Impurities of the blood from whatever may produce that effect.

The *Treatment* should consist in the general purification of the system, which will moderate the severity of the present cases, and prevent the addition of more. After the carbuncle is actually formed, it should be poulticed until it is nearly or quite ripe, and then it may be covered with sorrel leaves roasted in a bag in the ashes. This will soon rot the surface and cause it to break, or when entirely mature, it may be opened with a lancet. A poultice of alum curd will relieve very much the pain, before breaking, and a soft paste made of honey and flour, is among the best articles to be applied after the discharge. If it stimulates too much (“draws too hard”), omit it, and use a bread and milk or a slippery-elm poultice, or cover it with succulent green leaves bruised in a mortar. These may be used alternately until the orifice is entirely healed. It is improper to press the boil very severely or to use any violence in removing the white core. It is sufficient to promote the ripening process, and to keep the orifice open with poultices.

GENTS 135. ATROPHIA.—Marasmus. A general wasting of the system, without fever, or with very little excitement.

Character.—“Pale emaciated habit; skin wrinkled; muscles thin and weak; synochula [very slight fever], occasioned by a deficiency or bad quality of nutriment, or from a deficiency of the assimilatory process.”—G.

Causes.—Any thing that can in any way reduce the vitality of the system or poison all the springs of life.

Indications.—To purify the system for the present, to “promote all the secretions,” and to take that quality or kind and degree of food and exercise which are best calculated to secure a healthy action.

Treatment.—The first and second indications are fulfilled by a few thorough courses, the alterative treatment and repeated baths. The food should be of the best vegetables (bread, seeds, fruits and roots), and the exercise should be such as to exercise all the parts of the body as nearly equally as possible; and taken in an atmosphere, pure and bracing. Rubbing rapidly with a crash towel, the whole body in the morning, after a sudden sprinkle with cold water, little or much according to the ability of the patient to bear it, is often good in this or any other form of disease in which there is much debility.

Cold water is undoubtedly a sedative in its nature. It abstracts the heat of the body, and thus far tends to weaken it. But, at the same time that it does this, it closes the pores so that the heat next generated, is accumulated and retained in the system. Moreover, the natural dread we feel for cold, causes a reaction of the vital power, which sets the machinery in motion again and thus often restores the wanted health. It acts in the same manner upon the internal system, and is, of course, good to allay the heat and thirst in fever, in all cases of which, patients should be permitted to drink as much as they crave. In gastritis, and some congested states of the internal organs, it will sometimes be immediately rejected. It should also be dashed in the face, on the breast, and down the spine, while bathing, whenever the patient is faint

or languid. It should then be given in very small quantities, and when out of the bath and feverish.

GENUS 136. TABES.—Marasmus tabes.

Character.—“Universal languor and depression of mind; emaciation; persistent synochula, often induced by extraneous, irritating materials; as,

Varieties.—1. *Vanenata.*—From *mercury, arsenic, opium, etc.* Also from *syphilis.*

2. *Strumosa.*—From a scrofulous diathesis.

3. *Cachectica.*—From cachexy—ill habit of body.”—G.

The *Proximate Causes* are sufficiently indicated above, except for the last variety. This ill habit of body may arise from a bad temper or disposition, or from a naturally irritable constitution; but, like the scrofulous diathesis, it is very frequently the result of administering poisons for medicines, or of using improper articles of food; or from an idle life secluded from fresh air, etc.

“There is not, in the *Materia Medica*, another article which so speedily and to so great an extent debilitates the stomach and bowels as calomel.”—(Graham.) “The two-edged sword of the profession.”—(Harrison.) “The diseases it produces are more numerous and obstinate than those it cures.” (Reece.) It alone, has done more mischief to society than all the good that has been connected with it, has ever counterbalanced.

Arsenic is scarcely less mischievous, as will be admitted, if it should be used as freely as mercury is. It produces gastritis, dyspepsia and dropsey, whenever it is taken to any extent.

Opium is very mischievous to the nervous system, producing irritability, hypochondria, melancholy, and “incurable mania.” It is a frequent cause of delirium tremens.—(Eberle.) “It has done seven times as much mischief as benefit on the great scale of humanity.”—(Gallup.) “Innumerable infants have been irretrievably ruined by it,” given in the form of paregoric, Godfrey’s Cordial, Dalby’s Carminative, etc.—(Eberle.)

The syphilitic diathesis is greatly aggravated and the constitution often ruined by treating that disease with mercury.

Mercury, arsenic, opium—all poisons check the secretions, especially the glandular, and, of course, induce scrofula (struma), and all its terrible devastations, not only of the flesh, but of the bones.

Lastly, the irritability produced by the retention of so many secretions, constitutes Dr. Gallup’s third variety *cachectica*. Keep off the causes and there will be none of these effects. Remove, if you can, these causes, and you cure the disease.

Indications.—1. To avoid mercury and other poisons; and to make use of the best means yet known—courses of medicine with alteratives and the bath—to remove those already taken, or relieve the system from their effects.

2. To restore a healthy tone to the general system, and—

3. To teach the patient to command his temper and irritability, while you give him nervines to aid him in the effort.

Treatment.—To remove the poisons, I have been obliged to give the bath every day, sometimes twice a day for hours together, an emetic nearly as often, and to keep up a gentle perspiration in the intervals, with the various sudorific articles, as sage, catnip, balm, boneset, motherwort, pleurisy root, polemonium, asarum, etc., and when the mouth is very sore, to use freely cayenne, and bayberry, or sumach, and tincture of myrrh for gargles, several times a day for weeks, and even months together; and I should be happy to be able

that I could always succeed with this efficient treatment. I have found true, the statement of Drs. Chapman, Harrison and others, that when mercury gets the control of the system, it is always extremely difficult and impossible to remove it so as to restore the patient to sound health, and very so, to give him again, such a constitution as he had before he took poison. Men who are ignorant of their deleterious effects, think they can the regular poisons for a while, and, if not cured, they can then use the tonic practice, and get rid of them. But this is not so. It is impossible one to take poisons, especially mineral, for any considerable time, and not so injured by them as to be constantly liable to disease, suffering and premature death. Mercury is, perhaps, the worst of all the poisons given by the faculty. "It is indeed a Goliath to destroy."—(McClellan.) The great "Samson of the Materia Medica"—Dr. Harrison should have said, of toxicology.

GENUS 137. HECTESIS.—Epanetus hectica. Hectic fever.

Character.—"An iritative fever, having a resemblance to a mild remittent; two exacerbations every twenty-four hours, one commencing about noon; the other about six o'clock in the evening, preceded by chilliness, followed with aggravation of fever, a flush in one or both cheeks, and ending with free sweats. The noon exacerbations, of about four hours continuance, the evening the severest, of about six hours; urine high colored, depositing a red sediment; in an advanced stage, the tongue free from fur, of a deep red color, and covered with aphthæ; adnata of a pearly whiteness; occasional diarrhea; edema of the feet; emaciation; always connected with a state of irritative or of ulcerated surface, not incarcing, but reflecting morbid sympathy to the involuntary movements."—G.

The above is just no disease at all, but a symptom of many forms of disease of a prostrating character, as consumption and typhus. Fever of this character, indicates great internal obstruction, and depression of the vital powers, and shows the necessity of a depurating and supporting treatment. The irregularity of the flush and of the perspiration, shows that there is not vitality enough in the system to keep up a general fever, and also the propriety of aiding the system by baths and friction with stimulants. The bowels should also be kept open by enemas, and some good laxative bitters, as boneset, golden seal or perhaps a small quantity of bitterroot; but on no account should any drastic medicine be used.

Too much attention can not be paid to diet and exercise, and the removal or avoidance of every means that is calculated to reduce the vital power.

The common habit may be sympathetically influenced.

7th. As the local impressions may constrain the secretory and excretory functions.

No. 33.—Order VII.

Diathesis capillaris adstricta.—Stricture of the capillaries.

General Character.—"Some of the varieties of disease of this order, may be considered as having a local origin, in a particular manner. They, however, generally depend on a state of innervation and tonicity. The tissue affected receives an undue proportion of the general perternatural state of tonicity existing; yet it may not in the first instance, be sufficient to produce much turgescence of vessels, although it may impede the secretion and excretion.

tion of a tissue. If it continues, a state of turgescence follows, and, sooner or later, a liability to inflammation. The reflex action will be different on the system, as modified by tissues of different sensibilities and of greater or less importance to the general economy. It becomes difficult, therefore, to make much advance in relation to a specific modification of a character, collectively, of this order, on the common habit."—G.

Remarks.—This is nothing more nor less than a determination of the blood to the capillaries of a particular part, and a reflex action on the general system, produced either by the irritation of the nerves of the part, or by obstruction to the perspiration which has driven the action upon it. All that is wanted is to equalize the circulation and promote perspiration, removing, by a course or so, a few alteratives and enemas, the obstructions, if internal.

FIRST SERIES.

GENUS 138. PLETHORA.—Fullness of vessels.

Character.—“Vascular system generally distended beyond the physiological state, on account of the ingesta and egesta [what goes in and what goes out], not being duly proportioned; or, as a sudden state of tonicity may have contracted the calibers of the vessels, and, as the fluids may have become suddenly expanded.”—Gallup.

The proper *treatment* of this genus is indicated in the remarks just above it. It is sometimes necessary to keep the patient in the bath a long time. If cold and clammy, cayenne may be used freely; if feverish, the drinks should be antispasmodic and sudorific, and the surface may be bathed with cool water while in the baths, until it becomes cool and comfortable, when the perspiration should be continued for some time.

GENUS 139. ADIAPHROSIS.—Obstructed perspiration.

Character.—“Dryness of the skin; from a sudden state of innervation, diminishing the secretion; or a more permanent and inelastic state of the tissue, whereby the transpiration is made difficult.”—G.

This again is only a symptom of disease, as are, in fact, almost all Dr. Gallup’s genera.

Causes.—Perspiration may be suspended from various causes. A very common cause is cooling too suddenly after having been inordinately heated. This may be done in many ways: as by the weather changing from warm to cool and damp; by going from a warm room to a cold one, or from the sun into the shade; by going into a damp cellar room, or cave, or a dense forest, or sitting in the day, on cold, damp ground or stones; by sitting thinly clad, in the cool air of evening, after a warm day; or, by standing, or sitting still, in a draught of air after severe exercise in any place.

It is very commonly produced by suffering the surface to become dirty, either from without or within, especially the latter, which is effected by suffering the perspirable matter to dry on the surface of the body, and in the pores of the capillaries, and thus to drive the circulation to the internal organs, producing congestions, inflammations, abscesses, hemorrhages, diarrhea, diabetes, etc. It is also a result of any of these which may have been produced by internal causes.

The *Indications* and *treatment* are always suggested by the causes and the states.

When a sudden loss of heat only is the cause, the vapor-bath and a little sudorific tea, are generally all that is necessary. When it is caused by the neglect of depuration, the stomach and other organs will have become clogged.

and it will be necessary to give a full course or two and follow it faithfully with sudorifics, alteratives, enemas and the bath, until all is right again. When it is a consequent of internal local irritation, as poison, worms, etc., remove the causes; when of inflammations, give courses and the bath often and for a considerable time, until the inflammations are removed.

This "permanent and inelastic state of the tissues," is often produced by the use of the lancet and physic, which check the determination to the surface, and send the fluids to the internal canal, causing diarrhea; or into the cavities, causing dropsy. Dr. Mott gives an account of a lady who had not perspired for twenty-five years; says she has had a diarrhea nearly all that time, and adds his opinion that no means now known can restore the perspiration! Of course, he knows nothing of the virtues of lobelia and the vapor-bath.

In all cases of dropsy, the perspiration is checked, and the great difficulty is to restore it. In these last cases, the best means is to apply the vapor-bath for a long time, washing and rubbing the surface with warm water and soap, and giving a little tea of some diffusive stimulant. The feet should be either in hot water, or the hottest part of the bath.

All sensible writers unite in the declaration that there is nothing more important in the practice of medicine than to promote perspiration whenever deficient. It is the grand depurator of the body—the main outlet for all the impurities of the circulation. Indeed, he who keeps his surface constantly so clean and pliant, that perspiration is easily induced by a little over exercise or sudorific tea, can scarcely ever be sick.

GENUS 140. POLYDIPSIA.—Morbid thirst.

Character.—"Strong desire for drink, with a dryness of the mouth and fauces. The secretion by the mucous membrane is stopped, while absorption is active; the part needs to be frequently moistened. The same in the stomach. Restore secretion and thirst ceases."—G.

Thirst is the sensation we feel when the fluids are evaporated too much from the body. As the mouth is the place where fluids are introduced, and from which and the whole internal canal, they are first absorbed and carried into the system; and the surface, the lungs and the urinary organs are the places of egress for the same fluids, it follows that, in their passage through the system, as that of water through a sand bank, the place of ingress will first feel the want of a new supply. If this supply is made promptly and fully, the desire is satisfied; but, if the patient has been so long deprived of the proper fluid that a much more extensive vacuum is created for it, he is satisfied by a single draught, only until it is carried into regions deeper seated, when the mouth, fauces, etc., demand more. If the supply is repeated as often as the demand is made, the whole system will soon become saturated: and the irritation being removed, the sensation it produces, called thirst, will cease.

It sometimes happens that the irritation arising from the want of fluids, or from some foreign substances in the system, produces such a spasmodic and irritable state of the stomach, that it rejects water even in the smallest quantity. In this case it is indispensable, and in all cases very serviceable, to use the vapor-bath, medicated with antispasmodics if possible giving teas of the same, and, in case of fever, to bathe the surface in cool water while in the bath, until the surface becomes cool and the vapor is preferred. When the case is cold and clammy, the vapor should be applied moderately and increased steadily, and antispasmodic drinks and enemas given often and in

small quantities, until the stomach and bowels will retain what is put into them, which they will generally do, as soon as the perspiration becomes free and steady. It is often necessary to produce emesis while in the bath. At all events, the patient should be kept there and properly managed, until relief is obtained, which has sometimes required twenty-four hours—in many cases ten or twelve. In fever cases, a water bath, of a temperature quite as cool as pleasant to the patient, or in case this is not convenient, flannels dipped in cool water and laid upon him, will be very useful.

The water will cool the surface by absorbing the caloric; it will excite reaction to the surface by its stimulating power, and lastly, it will be absorbed into the surface and thus supply, in some measure, the demand for drink. Let any one who doubts this, go into the water when he is thirsty, and he will soon find that his thirst is leaving him.

It is sometimes the case that drinks of an acid character, at others of an alkaline, are found to allay the thirst better than pure water. This is when the irritation is produced by the presence of materials of an opposite character. For this purpose the juice of stewed apples, pears, etc., or weak vinegar and water, is often very grateful in cases of thirst accompanied by fever. And I have often known an enema containing a little alkali, to stop, like a charm, a severe tenesmus. It is my practice to allow all fever patients as much cold water as they want, a little at a time and often, and I have yet to see any disadvantage arising from it.

Dr. Gallup says, "restore secretion and thirst ceases." Very true; but you can not restore secretion until you supply the system with the fluids necessary to supply the deficiency which has induced the irritation.

GENUS 141. AGALACTIO.—Agalactio impotens. Scantiness of milk.

Varieties.—1. *Tonica.*—A state of innervation or inflammation.

2. *Inanis.*—From a defective nutrition.

Causes and Treatment.—The first variety may proceed from cold, or from neglect to draw off the milk as soon as it accumulates in the breast. You should equalize the circulation, and poultice the part with slippery-elm, flax seed, pond lily, lobelia, boiled onions, etc. After the inflammation and swelling are well reduced, a piece of linen or leather, covered with lard, and a sprinkling of powdered gum camphor, and applied to the breast, will be found very useful. If the swelling refuse to yield to these simple means, a thorough course should be administered, the bath frequently used, and poultices applied constantly between the baths; and the course should be repeated if these be found insufficient.

The second variety requires a course or so, to cleanse the system, and then a tonic course, of alterants and stimulants.

GENUS 142. TUSSIS ARIDA, or sicca. Dry cough.

Character.—“The mucous membrane of the lungs, not affording its secretion, in consequence of a state of tonicity, excitation or inflammation.”—G.

Causes.—A dry atmosphere, especially that of close rooms heated by stoves, (which should always have a large low pan of water on them), much speaking, profuse perspiration, dusty atmosphere, as in mills, on dry pikes, etc.

Indications and Treatment.—To remove all the causes, to loosen the vessels of the lungs by antispasmodics and the bath, and the emetic if these do not answer, and to promote the depuration of the system, by alterants, the bath and friction, and by inhalation of the vapor of lobelia tea.

GENUS 143. ICTERUS.—Jaundice.

Character.—“The natural course of the bile perverted, it becomes absorbed or regurgitated into the circulation, and tinges white membranes and fluids of a yellow color. Most of the excretions are also yellow, except the feces which are whitish and tardy, from its absence.

Varieties.—1. *Tonicus*.—From a state of innervation and rigidity, impeded secretion.

2. *Phlogisticus*.—From extreme excitation, inflammation of the liver.

3. *Choleras*.—From a viscid state of the bile closing the passages.

4. *Chololithicus*.—From gall stones; or from other mechanical impediments.”—G.

Causes.—Some of these are mentioned among the varieties. The innervation of the liver, may be produced by taking cold and closing the surface, or by high excitement, as fear, grief, anger. The phlogistic, from the same cause. These varieties require the use of antispasmodics, the vapor-bath, and alteratives of a predominantly relaxing character.

Varieties three and four. Here again, the vapor-bath, antispasmodics and laxative bitters, are indicated, and should be faithfully administered. By steady perseverance in the use of these means, for a long time, with proper diet and exercise, the obstructions will be removed and health restored. In the last variety, the best diuretics, should be given, and in all it is very important to observe a proper diet and regimen.

GENUS 144. ISCHURIA.—Suppression of urine.

Character.—“Loss of function of the kidneys; urine not secreted; bladder empty.

Varieties.—1. *Tonica*.—From a state of morbid tonicity or innervation, producing an inability of function or paresis.

2. *Phlogistica*.—From inflammation; far more obstinate than the last.

3. *Vesicalis*.—When urine is retained in the bladder from any cause obstructing its passage through the urethra; tumor above the pubes; tenderness on pressure, desire to urinate.”—G.

Causes.—Irritation, inflammation, stricture, calculi, paralysis, narcotics, etc.

Treatment.—Variety first should be treated with antispasmodics and diuretics, as boneset, cleavers, melon seed tea, juniper berries, etc., and a little lobelia. The vapor-bath should be used often. Variety second, with the same, and with cool water, more perseveringly applied. In variety third, when from inflammation, it should be reduced by lobelia, the bath, and injections of lobelia through the catheter if you can. The bath should be continued every day, and fomentations and poultices should be applied to the pubic region, consisting of bitter herbs, lobelia, etc.

GENUS 145. STRANGURIA.—Strangury, dysuria.

Character.—“Frequent desire to void urine, irresistible; in very small quantities, often by drops; attended with painful dysury—from cold, from cantharides—any thing calculated to irritate the urinary organs.”—G.

Treatment.—The same as for the preceding Genus. A generally relaxing and purifying treatment suits all these forms of disease. In giving injections to the bladder, I use a catheter smeared in slippery-elm and enlarged at the external end, and allow the fluid to pass out through the same channel, giving first relaxing and slightly stimulating articles, and then stimulants and

astringents. Great care should be taken to avoid the use of irritating causes and to keep the bladder constantly well emptied.

GENUS 146. OBSTIPATIO.—Coprostasis. Costiveness.

Character.—“Slow fecal movements or constipation.

Causes.—Often a deficiency of mucous secretion or too much absorption of fluids from the intestines. Deficiency of bile. An undue proportion of calcareous and albuminous matter secreted into the intestines, forming balls (scybala). Mechanical hindrances, as strictures, inflammations,” etc.—G.

Astringent articles of food, physic to remove costiveness, sedentary life, and, above all, neglect to attend to the calls of nature whenever they are made.

Treatment.—The indications are, to remove all the causes, and to promote a healthy action through the whole system. The treatment should consist of enemas of cayenne, lobelia and other relaxants to the bowels; cayenne in cold water, bitterroot, burdock, golden seal, sarsaparilla, etc., and other articles of similar character, with the vapor-bath often, and moderate exercise, giving constantly a downward and relaxing tendency to all the feelings; chamooning the bowels, etc. In costive patients, there is a continual disposition to contract the sphincter, and to resist the tendency of the feces downward, and a constant disposition of the mind to go faster than the body, which should be carefully counteracted.

Costiveness is an attendant of a great variety of forms of disease, and its causes and treatment can not be too carefully attended to. When it proceeds from a too sedentary life, it will soon cause other forms of disease, and when removed by *physic*, it will soon return and become more and more obstinate. The vapor-bath and enemas are the best remedies.

GENUS 147. CHLOROSIS.—Green sickness.

Character.—“Absence of menstruation at the expected period, so long as to derange the general sanguiferous and the mucous system. Adstrictive state of the uterine mucous tissue.

Varieties.—1. *Irritata (inops).*—Countenance sallow, muscular inability; depraved appetite; imperfect digestion; dejection of mind; pulse increased. A mild state of tonicity.

2. *Plethora.*—Pain in the head and loins; palpitations; pulse full and frequent, nervous debility and trembling.”—G.

Causes.—Any thing which obstructs the equilibrium of vital action; as unequal clothing and exercise; bad food; mental emotions, as grief, disappointment, anger; a sedentary life; confinement of the body; general debility; poisons used for medicines.

Treatment.—Cleanse the general system with the courses, and use the relaxing alterants, as boneset, rattleweed, tansy, chamomile, motherwort, balmiony, bitter root, etc., with lobelia pills, and a little stimulus, as ginger, prickly ash, spice bush, etc. Great care must be taken to keep the surface free with the bath, the bowels with enemas; and the spirits should be cheerful. Exercise gently in the open air, and change scenes so much as to prevent monotony without producing too much excitement.

Perfect health requires a perfect equilibrium of vital action. When the physiological action of a surface is slightly increased, there is an increase of its function, or discharge of fluid termed *profusia*. If increased still more, the function is suspended; as the perspiration in fevers, etc. To promote the secretion of surfaces in this condition, it is necessary to relax the general system, which will open the caliber of other vessels and invite the blood to

them, so as to relieve the organs chiefly oppressed. When the pulse is reduced to the healthy standard, a regular course can be applied, and the whole system relieved.

GENUS 148. AMENORRHEA.—Retention of the menses.

Character.—“Menstruation obstructed in its course, after having been established. Pain in the head and back; languor; febrile symptoms.”—G.

GENUS 149. DYSEMENORRHEA.—Difficult menstruation.

Character.—“Menstruation progresses with great pain, attended with tonic spasms of the hypogastric viscera; suffering paroxysmal aggravation.”—G.

Causes.—The causes of the above forms of disease are the same: Colds, unequal clothing, *particularly* thin shoes and stockings, and no drawers, with under garments of buckram that prevent what is over them from coming in contact with the body and keeping it warm, a very fruitful cause; disappointed affection; ill temper; grief caused by the loss of friends; improper diet; want of exercise; general debility; ill treatment from the other sex; the use of poisons for medicines.

Indications.—To remove all the causes, to cleanse the general system, equalize the circulation and nervous action; to promote all the secretions, and tone up all the tissues.

Treatment.—In addition to courses, once, twice or thrice a week, as the case may require, give the laxative alternants; as boneset, burdock, bitterroot, rattlesnake-root, sarsaparilla, balmony, sage, catnip, etc., with ginger and cayenne to keep up the general action. Various articles prove emmenagogue, but they do so because they are generally relaxing and depurating, rather than because they exert any specific action on the diseased organs. In proof of this, I need only allude to the fact that they relieve other diseased organs as well as those under consideration, and that they will not produce menorrhoea, when it should not be produced. Hence it is, that physicians have always been so much puzzled to know how to classify different articles of medicine: some have ranged them under one head, some under another; and Dr. Harrison has ranged mercury under *all* heads, for he says it “promotes all the secretions.” And it is strictly true that a medicine which promotes one secretion, has a tendency to promote another, and will do so, if brought to bear upon it. Some medicines give out their strength sooner than others do, and are therefore likely to spend that strength upon those organs with which they first come in contact; as the various emetics; others will give out their power more gradually, and effect the most powerfully, organs distant from the first attack; such is physic, as aloes and butternut, which act on the lower bowels. Others again of a more relaxing and diffusive character, act on the nervous system, as the antispasmodics; and these are the most general in their influence over the system, in promoting the secretions. These articles are called nervines, alteratives, etc., and are generally either aromatic, as the mints; or bitter nauseants, as boneset, motherwort, skullcap, balimony, and the like. They are the depurators of the system, and should be used, with a little cayenne or ginger, and the bath, in all cases of diminished secretion, by whatever name they may be called.

The practitioner who spends his time in hunting up specifics for particular forms of disease, has lost sight of the true science and art of healing, and will soon deserve a name and a place among the Brandreths, the Morrisons, the Evanses, the Peterses, the Swains and the Dyotts, who make to themselves fortunes out of the honest credulity of the public; and spoil more constitutions than they benefit.

SECOND SERIES.

Emphysematous tumefactions, with adstriction of the outlet.

GENUS 150. EMPHYSEMA PULMONIS.—Inflation of the bronchial vesicles.

Character.—“Dilatation of the bronchial visicles, by the pressure of confined air, as a rupture of several into the substance of the lungs; or an infiltration into the cellular tissue, appearing in vesicles below the pleura pulmonalis from internal rupture, or secreted from the blood. Attended with dyspnoea; cough and surcharge of mucus; lungs not collapsing, and the capacity of the bronchia diminished.”—G.

Causes.—May be produced by hurried and strong respiration.

Treatment.—This form of disease is not very common. It should be treated with relaxants and stimulants. Lobelia, and other antispasmodics, cayenne and the vapor-bath—these loosen the outlets for the air, and aid the vessels in disengaging it.

GENUS 151. PNEUMATOSIS CELLULARIS.—Emphysema cellularis. Cellular intumescence, from gas.

Character.—“An intumescence from gas, throughout the cellular texture, over the body, giving a crepitating or crackling sound when pressed.”—G.

Causes.—Poisons, wounds, putrefaction, etc.

Treatment.—The treatment in this form is the same as for the preceding It should be perseveringly applied. The bath constantly, until relief is gained.

GENUS 152. EMPHYSEMA INTESTINALE.—Tympany of the intestines, as in the stomach and bowels.

Character.—“Light and sonorous intumescence of the abdomen from accumulation of gas in the intestines. When moderate and circumscribed, it is called flatulency, also borborygma.”—G.

This form is to be treated with emetics, and enemas, containing a portion of soda, saleratus or pearlash, and a free use of the bath. The former to neutralize the acid, and clear the passages, and the latter to give vent through the surface, and thus aid digestion and prevent the accumulation of gas.

This flatulency is an attendant of almost every chronic form of disease. It is particularly troublesome in dyspeptic patients. It proceeds from the fermentation of vegetable food, which is not digested soon enough to prevent that process.

Treatment.—Eat but a small quantity, and let that be of materials that digest speedily. Thoroughly masticate and insalivate what you do eat. Omit a supper every three or four days, to allow the stomach to get entirely empty. Eat now and then a meal of animal food exclusively. A reasonable amount of useful labor, fresh air, and cheerfulness, and temperance in all things, are good protectors against this very common affection.

Varieties.—Abdominale.—Tympany of the abdomen. An accumulation of gas in the cavity of the abdomen; sonorous on percussion.

Treat this as in Genus 150. If it refuses to yield to a vigorous and persevering treatment, you may tap as for dropsy.

GENUS 153. PHYSOMETRA.—Emphysema uteri. Tympany of the uterus.

Character.—“Light, circumscribed tumor in the hypogastric region, giving an obscure tympanitic sound on percussion; wind sometimes discharged *per vaginam*.”—G.

Causes.—A lax state of the system generally, and of the uterus particularly; and, perhaps, a putrefaction of the mucus secreted into the cavity of the uterus.

Treatment.—A general cleansing and toning of the system, with astringents and slightly stimulating enemas to the vagina. Frequent bathing. Keep the bowels in order.

The general habit may be influenced sympathetically.

3. *As the local concentrations from the morbid habit may impress the expansions of the respiratory and ganglionic nerves, distributed in either the voluntary or the involuntary muscular organs, obstructing their movements by a spastic rigidity, giving rise to*

No. 34.—Order VIII.

Diathesis muscularis adstricta. Spasm of the muscles.

Character.—“ In this habit of disease, the muscles suffer a morbid contraction, and remain fixed an indefinite length of time. Their motions seem to be influenced by the susceptibility bestowed by the branches of the trisplanchnic and respiratory nerves, plentifully distributed in their composition, especially as relates to the visceral muscles. Anatomy demonstrates many of the voluntary muscles, also, as being supplied with nerves of involuntary susceptibility, as well as of external relation. Where the latter have not been demonstrated, we argue their existence from analogy, which anatomy may reveal at a future period. When the morbid concentration is on the nerves destined to excite voluntary motion, their spasmodic muscular action is alternated with relaxations, in quick succession, constituting the kind that is called *clonic* spasm; whilst the contractions producing the present order, have been called *tonic* spasm. In both conditions there is a state of morbid tonicity, yet variously modified by the physiological character of the different order of nerves, and the primitive vital force.

“ With respect to the character of this diathesis, it may merely be noticed, that, as the vital force is lavished on the muscular branches of the trisplanchnic, the vascular branches are deficient in vital force; the responding febrile actions are, therefore, not well developed, yet laboring in a constrained manner. We may first consider the external, and then proceed to the several muscles particularly under the dominion of the trisplanchnic nerves. The former organs will be again brought into review, in treating of the morbid actions of the nerves of volition. It should further be observed, that this order of spasm is very persistent, sometimes continuing even after apparent death, while any irritability remains, as is shown in the case of priapism, and stiffness of joints, in some instances.

“ The physiological movements of the organic viscera are more steady, uniform, and persistive, than those of the organs of external relation. The same leading character prevails in the morbid state; hence the persistency of tonic spasm, and neuralgic pains. It will be suggested, that the primitive vital force, *vis insita*, assumes its prerogative in tonic spasm; perhaps in aid of the ganglial nerves.”—G.

Professor Gallup has here given us the character of this form of disease which I called constriction (page 121), and showed how to treat (page 121), which will answer, with only the variations indicated by the locality of the stricture, for all the genera of this order.

The Causes are numerous and different in their nature, but the effects are the same, viz: irritations producing spasm of muscular fiber, more or less violent and persistent.

FIRST SERIES.

"Affecting the muscles of external relation through the agency of the arterial trisplanchnic nerves, and the primitive vital force."

GENUS 154. TETANUS.—Entasia tetanus. Stretching spasm.

Character.—"Permanent, tonic spasm in some or all the locomotive muscles; subject to slight remissions but not to relaxation; severe pain; countenance distorted; dyspnoea; difficult deglutition; jaws closed; pulse contracted, small and hurried; coldness of the surface and extremities. Often terminates fatally by convulsive movements.

Varieties.—1. *Anticus* or emprosthotonus.—Body rigidly bent forward.

2. *Posticus* or opisthotonus.—Body rigidly bent backward.

3. *Lateralis*.—Body rigidly bent sideway."

Causes.—Cold, indigestible or poisonous substances, wounds, etc.

Indications.—To relax the system, and keep it so until it shall be depurated by emetics, enemas, perspiration and the alteratives.

Treatment.—Put the patient on a steam cot, and give him lobelia tea, weak and in small quantities, and frequently repeated, until after free vomiting, when teas of boneset and other antispasmodics, may answer. But, if the spasm refuses to yield, continue the lobelia, by injection as well as the mouth, and keep the patient on the cot, over a moderate vapor, until the relaxation is produced, if it requires a week. Sometimes the nervines, as lady's slipper, skullcap, asarum; or the aromatics, as sage, catnip, balm, etc., will produce nearly as good an effect as lobelia. When they do, they should be preferred, as they produce less nausea. Sometimes a warm bath—moderately warm water—is quite agreeable and valuable.

When the spasm ceases, the patient is easy, and the perspiration and bowels free, he may be put into a bed and the common sudorifics may be continued until all is safe. This treatment may not cure every case of tetanus, but it has cured many, and is the best we know of for the purpose.

GENUS 155. CATOCHUS.—Carus ecstasis. Ecstasy.

Character.—"Total suspension of mental power and voluntary motion; pulsation and breathing continuing; muscles rigid; body erect and inflexible."—Good.

This state is easily produced by magnetic operations, which fact shows that it is a powerful concentration of the will upon a particular subject. It has often been produced under religious excitement, and I am acquainted with several persons who can throw themselves into it at pleasure. Though it is sometimes induced by disease, it can hardly be called disease itself. When produced by disease, it should be cured by equalizing the nervous action and removing all obstruction to the full and free action of the vital power.

GENUS 156. TRISMUS.—Entasia trismus. Locked jaws.

Character.—"Painful, fixed and rigid contraction of the muscles of the jaws; mouth firmly closed.

Varieties.—1. *Nascentium*.—Affecting infants soon after birth, from irritation of the funis, or in the alimentary passages.

2. *Traumaticus*.—From wounds or ulcers, especially in hot climates."—G. The Causes and indications above.

The Treatment is the same as for Genus 154. When it proceeds from wounds of a nerve, as with nails, awls, splinters, etc., it has been cut or burned out; but I believe without any final benefit. The whole system should be

relaxed, and the part poulticed, if possible, with lobelia and slippery-elm. It sometimes proves fatal even under good treatment.

GENUS 157.—HYDROPHOBIA.—Dread of water. Rage.

Character.—“Dread of cold, or shining bodies, and for the most part a horror of liquids. When voluntary efforts are made to swallow drink, an involuntary and spasmodic action of the muscles of deglutition prevents, with an exacerbation of the spasms of the muscles of the throat and adjacent parts. Hurry of mind; anxiety and horror; supervening the bite of a rabid animal. These symptoms are preceded by pain, or uneasiness in the bitten part. Sometimes a desire of biting and doing violence; at other times not. Occasionally priapism.”—G.

Varieties.—1. *Canina*.—From the bite of a dog, and often fatal on the access of one or two paroxysms.

2. *Felina*.—“The paroxysms periodical, and returning with the full moon: produced by the bite of an enraged cat.”—G. From the bite of wolves and other animals.

The *Indications* and *treatment* here are the same as for tetanus. Full courses should be given in rapid succession, until the system is thoroughly cleansed, bathing, at the same time, the part bitten, with tincture of lobelia, giving, in the intervals, the most relaxing articles, and applying the cot-bath incessantly but mildly until the patient continues easy. We have seen one man relieved by this course, and heard of many others. M. Buisson cured many patients by steaming alone. Lobelia and the bath have been proved quite sure remedies for hydrophobia.

GENUS 158. GLOBUS HYSTERICUS.—Hysterical globe.

Character.—“A suffocative sensation in the throat; a tumefaction, from contraction of muscles; sensation of a ball rising from the stomach; deglutition hindered; often attends hysteria, hypochondriacal and grief.”—G. (See Dunglison.)

It sometimes occurs after vomiting, when it may be removed by a bath, an enema, and sometimes by a little weak herb tea.

The *Treatment* must consist in the removal of all general irritation, the cause of grief, hypochondria, etc., when it can be removed, and teaching the patients to bear it when it can not.

GENUS 159. CEPHALOXIA.—Entasia loxia. Stiff neck.

Character.—“Fixed contraction of the muscles on either side of the neck, drawing the head to the side affected. Caused by cold, irritation, etc.”—G.

Treatment.—Remove the causes with courses and alterants, and rub the contracted muscles with the antispasmodic liniments. Poultice them with lobelia and slippery-elm. Magnetize the patient, and demagnetize the contracted muscles; and let him remain so several hours.

GENUS 160. ANGINA SPASMODICA.—Spasmodic quinsy.

Character.—“Painful constrictive sensation of the larynx, attended with severe dyspnoea; often attacking young persons in sleep; having some resemblance to croup, but without inflammation or effusion; access and exit sudden; caused by cold and irritating food.

Treatment.—Equalize the circulation, and use the antispasmodics to quiet the spasms. Rub the surface with the hand and the antispasmodic liniments, with a little of the stimulating. Magnetize the patient and demagnetize the strictures.

GENUS 161. PLEURODYNIA ACUTA.—Pleuralgia acuta. Stich in the side.

Character.—“Sudden pain or stich in the side, without manifest fever; relieved by pressure.”—G.

Causes.—This generally arises from cold, sometimes from irritating food, poisonous medicines, etc.

Treatment.—The same as for the preceding, with lobelia pills at night, a warm brick or other substance to the part, and a stimulating plaster during the day. Magnetism. Electricity.

GENUS 162. PRIAPISMUS.—Priapism.

Character.—“Painful and continued spasm of the privates, without libidinous desires.”—G.

Causes.—Often produced by neglect to urinate, by vicious qualities in the urine, by cold, by strictures, etc.

Treatment.—Remove the causes above named. If the last, poultice the part with bitter herbs, lobelia and slippery-elm or some other mucilaginous substance. Give the bath often.

GENUS 163. CRAMPUS.—Entasia systremma. Cramp.

Character.—“Muscles, portions of muscles, or contractile membranes, suffering a sudden and very painful contraction, and remaining so an indefinite length of time, not very long; yet until warmth and circulation restore them. It attacks the stomach, the intestines, the legs, etc.”—G.

Causes.—Cold, general debility, irritation, etc.

Treatment.—Cleanse the general system, promote healthy action, rub the parts with tincture of lobelia and capsicum. Use the vapor-bath frequently to purifying the system and render it supple and you will soon remove it, and, by perseverance, finally cure it.

SECOND SERIES.

As affecting the internal and external muscles, under the dominion of the ganglionic and respiratory nerves; also, the primitive vital force.

GENUS 164. INCUBUS.—Ephialtes nocturnus. Nightmare.

Character.—“Spastic stricture of the internal and external muscles of respiration; inability of moving, or effecting respiration; occurring during sleep; intellect partially excited, or dreaming, conscious of a heavy weight on the breast; ineffectual exertions to move; distress of body; trepidation of mind; at length a severe, yet sort of a despairing effort, excites the muscular movements; and the heart is perceived, on awakening, to be acting with prodigious force and frequency”—G. (See Dunglison, 471.)

Causes.—This form of disease is the result of debility, particularly the heart and circulatory apparatus.

Vigilantium.—“Produced during wakefulness; pressure severe, and extending over the abdomen; respiration frequent, laborious, constricted; eyes fixed; sighing deep and violent; intellect undisturbed. Found, occasionally, as a symptom in dyspepsia, hydrocephalus, worms, and hypochondrias.”—Good.

Treatment.—When idiopathic, treat it as directed for the preceding Genus. When symptomatic, treat as directed for the forms of disease of which it is a symptom. Equalizing the circulation and nervous action and promoting the secretions for some weeks, or months, according to the severity of

the disease and the debility of the patient, will do whatever can be done for the case.

I have several times cured it entirely with a little alterative medicine, as the bread of life, spice bitters, etc., or a little cayenne on going to bed. But a thorough general treatment, with emetics, the bath, alteratives and tonics, proper food and exercise will do the work wherever there is a tolerable constitution to work upon.

GENUS 165. ADSTRICTO CORDIS.—Corded pulse.

Character.—“The action of the heart constrained; pulse frequent, small, corded, and retiring, as noticed in Order IV, Genus 33, from one hundred and thirty to one hundred and fifty pulsations in a minute. Precordial distress; sometimes of short duration; at other times of some hours continuance, ending suddenly and favorably; or at other times fatally by a cessation of the circulation.”—G.

This is a symptom of many forms of disease, and may be caused by a variety of agents. A loss of action in the system, and consequently a contraction of the surface for want of frequent ablutions, may throw the circulation back upon the heart. Blood-letting reduces the centrifugal pressure, the amount of nutritious material, and hence the vital force; of course it invites adstriction of the capillaries, the arteries and the heart. Poisons of every description “suddenly and rapidly reduce the vitality of the system;” of course, the “regular” practice of medicine is a fruitful source of adstricto cordis. Lacing up tight prevents the determination of blood to the surface, and cramps the heart. Want of proper exercise prevents that full play which is essential to the well being of the heart. The action of drastic purges collapses the capillaries and invites the passage of the blood to the heart. All these practices tend to produce the disease.

The *Treatment* will, of course, be such as, in each case, to counteract the cause. It will remove all obstacles to the full and free circulation of the blood. The bath will be a prominent agent in this operation. Courses may be given if the stomach is foul and the appetite poor; if not, the bath and alteratives will answer the purpose.

It must always be borne in mind, whether mentioned or not, that a proper attention is to be paid to diet and exercise, sick or well. See these articles by reference to the index. The exercise in cases of great prostration, *may* be no more than the movement of a hand or foot, still it should be practiced. When the patient is able to ride, and the weather permits, he should be required to do it in such a manner or vehicle that he can bear it; in a carriage, a wagon, or on horseback. This symptom is often found in all the forms of acute fever. For its treatment see “pulse,” also how to equalize the circulation.

GENUS 166. ASTHMA CONVULSIVUM.—Asthma siccum. Nervous convulsive or dry cough. Phthisis.

Character.—“A sudden spasmodyc paroxysm of difficulty of breathing; a sense of constriction, with a wheezing sound; not of long duration; cough slight; scanty expectoration at the close of the fit.”—G.

Causes.—A dry atmosphere, a stove room, attending mills, and working in dust, or any thing which dries up too suddenly the mucus of the lungs, or irritates the papillæ of the nerves which are distributed into the bronchial cells.

The *Indications* are to restore secretion to the lungs, and take off the irritation.

This will be done by expectorants, that is, nauseants and stimulants, and the use of all the means that are calculated to promote healthy action in the general system. It is admitted by its most bitter opposers for other purposes, that lobelia inflata is the best of all remedies in asthma. It should be given occasionally as an emetic to cleanse the first passages, and pretty constantly in minute doses as an expectorant in the form of cough sirup, anti-spasmodic tincture, lozenges, inhalations of the vapor, etc. Various other articles, such as hoarhound, comfrey, elecampane, sarsaparilla, skunk cabbage, and the like, are good to combine with it. The vapor-bath must be frequently used.

GENUS 167. ANGINA PECTORIS.—Sternalgia. Pain in the breast.

Character.—"Violent and sudden constrictive pain under the lower part of the sternum, involving the heart and its appendages, also the respiratory muscles, and most commonly those along the left arm; breathing constrained, with a sense of suffocation; occurring by paroxysms; often excited by exercise; frequently palpitation, followed by loss of pulse, sensation and motion, with cold sweat; paroxysm of usually half an hour, often fatal. Chronic and irregular."—G.

It sometimes happens that persons who have supposed that they enjoyed good health, are suddenly attacked with these paroxysms of pain; at others, they come on slightly and gradually for many years, sometimes twenty years; but I can not conceive that the results observed in the case, are the production of a moment, or of any very short period of time. The ossification of the valves of the heart, or of the coronary arteries, or of the costo-chondral cartilages, or the formation of a cancer in the stomach, of all which, the symptoms produced have been denominated angina pectoris, is not effected in a day if it is in a month or a year.

Causes.—As this form of disease is quite common, always very difficult to cure, and, in its advanced stages, absolutely incurable, it is very important to know its causes and the proper means of avoiding them altogether, or of promptly removing them on their first aggression. "Few diseases are more peculiar in their character, or fatal in their consequences, than angina pectoris. It therefore can not but appear remarkably singular, that so important a disorder should have altogether escaped the attention of the ancients, and that we should be indebted to authors of comparatively late times, for all that has been written concerning it."—Thacher's Practice, page 578.

To my mind, it is no wonder at all that the ancients did not describe it, for its causes are of modern origin. Neither they nor the disease existed to any extent in ancient times. Angina pectoris is the fruit of the follies of modern civilization. The cause of the disease is, in some cases, hereditary, producing defective formation of the chest and its contents; in others, the result of inactivity of body, which diminishes the centrifugal force of the circulation, thus favoring the deposit of fatty or of bony matter in the heart, etc.; in others the habitual indulgence of the violent passions; in others, it is any or all the means by which the chest is prevented from growing up, or from expanding at each inspiration to the full extent of its requirements for the growth and health of the body, as all tight bandages, apron strings, waistbands, vests, corsets, etc., all stooping or twisting positions of body, unequal clothing, want of regular and proper exercise, etc., and lastly, the eating of bad food, and more especially the use of blood-letting and poisons for the cure of the ordinary forms of disease.

Of all the causes of the several cases of this form of disease that have

come under my observation, none are so frequent and fatal, as corsets, tight vests, coat and pants, and the lancet and poisons. The former compresses the chest during childhood, and prevent the full development of the organs; if first applied, in later years, they obstruct the circulation through organs that were even well developed, and, in both cases, they favor the deposition of fatty or of bony matter, and the formation of tubercles, ulcers, cancers, bony concretions, etc., in the heart and other organs of the chest. I have examined the bodies of a number of persons who died of this form of disease, and, in every one, have found some one or more of these results.

The lancet diminishes the caliber of the arteries and the force of the circulation, and thus favors the deposition of bony and fatty matter; and "all poisons diminish the vitality of the system," assist the chemical agents in destroying the tone and integrity of the stomach, bowels, absorbents, etc., and produce ulcers, cancers, etc. The poisons, alcohol and opium, have been very active agents in the production of these effects, but the lancet and mercury, have, in my opinion, next to the compression of the chest, borne off the palm. They who would not be afflicted with some of the most tormenting and fatal of all the forms of disease that beset the human body, must scrupulously avoid all the causes I have here enumerated, and others which are calculated to produce the like effects.

Indications.—To remove all obstructions to the circulation and inspiration, to produce and maintain the equilibrium of circulation, to regulate the diet and exercise and tone up the general system.

Treatment.—The different views taken by different physicians, of the causes and conditions of this affection, have led to very different modes and means of treatment; but all amount to nearly the same thing—blood-letting and poisoning. See Thacher, page 577 to 585. As they are all wrong except the "warm bathing and friction to the extremities," I shall not repeat them here. Whatever be the symptoms in a given case, all the causes above enumerated should be avoided, and those which are evidently acting, should be removed. The best thing to be done during the paroxysm, is to administer lobelia freely, in small doses; say half a teaspoonful of the compound tincture—third preparation or, which is better, half a teaspoonful of a weak infusion of the herb, every five minutes until you break them. Then give freely of any antispasmodic teas, as boneset, catnip, motherwort, or any of the aromatic stimulants, and follow with composition, an emetic, an enema, a bath and friction with stimulants. The bowels should be kept open by enemas, and the greatest possible pains should be taken to keep the body erect, the shoulders back, the pit of the stomach and the navel forward, and the lungs well inflated at each inspiration. Let it be remembered that, on the freedom of the circulation and the purity of the fluids, depends the perfection of the cleansing and the nutritive process, and the importance of this direction will be better realized. The courses need not be numerous unless the phlegm and canker are abundant, and, even then, a strict attention to the surface by the bath, friction, etc., will prevent the necessity of so many of them as would otherwise be indispensable.

In aid of these means, the best alterative bitters should constantly be used three times a day, and the diet should be simple, nutritious, and moderate in quantity. The difficulty in breathing may be often relieved by small doses of cough sirup, tincture of lobelia, nervines, aromatic teas, a bath, etc. So may the spasms. The palpitation being the effort of the heart to remove the blood thrown upon it by collapse of the surface and lower extremities, the relaxation of those parts is the proper means to remove it. The sensation

should be restored and maintained by the use of electricity, galvanism and neurological operations; the cold sweats by the baths and friction. The stimulating plaster has been very useful. This course faithfully pursued, for many months, will cure those cases that are not beyond the reach of curative means.

GENUS 168. SINGULTUS.—Clonus singultus. Hiccough.

Character.—“Sudden contractile snatch of the diaphragm, associating the respiratory muscles, especially the abdominal; interrupting every word with a sharp sound on inspiration; sometimes transient, at others a symptom in fevers, with irritation on the pneumogastric nerve; and, in a chronic state, continuing many months.”—G.

Causes.—It frequently arises from listlessness, from wind on the stomach, from weakness, etc. When from listlessness, the patient should be suddenly aroused; when from gas, correct the acidity; when from weakness, cleanse the system and restore the strength.

GENUS 169. CLONUS EPIGASTRICUS.—Epigastric spasm.

Character.—“A single and sudden snatch or jerk of the diaphragm, and parts adjacent to the solar plexus; soon after going to sleep; resembling an electric shock; causing instant wakefulness, rising, distress, and perturbation.”—G.

Causes.—This, like all other spasms, is the reaction of the system from a state of irritation or of debility. If the former, the same relaxing influence as in the preceding case, should be produced, and then the course of medicine should be given and followed by relaxing alteratives. If the latter, the course may be commenced at once, and followed by stimulating and tonic alteratives.

The food should be of the least irritating character, small in quantity, and taken only at the regular meal times; and great pains should be taken to restore and maintain a healthy action of the surface.

GENUS 170. EMESIS.—Limosis emesis. Vomiting.

Character.—“Spasmodic contraction of the muscular coat of the stomach, until its contents are evacuated by the esophagus, assisted by the respiratory muscles, recurring by paroxysms. Sometimes by sudden snatches, with belchings, without much aid of the respiratory muscles, as in strictured hernia, and ganglionic irritations in fever.”—G.

Causes.—Irritating food, suppressed perspiration, cold.

The determination of the vital force, here, is inward and upward; of course the indications are to invite it outward and downward.

The *Treatment* should consist of relaxing and stimulating enemas and the bath, with small doses of lobelia, or some other relaxing article, as spearmint or catnip, until the circulation is equalized and the perspiration is free. Now give a full course, and follow it with cayenne and laxative bitters, and repeat if necessary, observing proper diet and regimen.

GENUS 171. PYROSIS.—Limosis sputatoria. Water brash. Often called heartburn.

Character.—“Severe constrictive pain in the epigastrium, increased by an erect position; the paroxysm, is relieved by an eructation or emesis of a white, acrid, sometimes viscid fluid, in considerable quantity.”—G.

Causes.—Indigestible food, spirituous liquors, worms, drastic purges, obstructed perspiration, etc. The fermentation of food before it is digested, is

the immediate or proximate cause, and whatever debilitates the general system, is the remote cause. Much fluid taken at meals, dilutes the gastric juice, and prevents it from digesting the food. The vegetables ferment and produce gas, water brash or acid eructations.

Indications and Treatment.—To cleanse the whole system, prevent fermentation, and promote the action of the stomach and bowels. This is done by a good course or more, by eating, for a few days, nothing but dried beef, venison or mutton, and abstaining entirely from all kinds of drink during meals, and for an hour after eating; by omitting supper altogether, and taking a little lime water, or asleratus water; or hickory ley water occasionally, to neutralize the acid that is present. The diet and exercise I have so often recommended in all chronic cases, are not less important here.

GENUS 172. COLICA SPASMODICA.—Colica ileus. Iliac passion.

Character.—“A sudden spasmodic and inverted motion of the alimentary canal, with vomiting of fecal matter; painful retraction of the umbilical region. Costiveness.”—G.

Causes.—Irritating materials in the internal canal; cold.

The *Indications* are, to relax the whole system, to clear out the morbid matter, to keep the lower part of the body comfortably warm, until all the symptoms of spasm are gone, and then to tone up the whole.

The *Treatment* should consist, first, in the use of the vapor-bath, medicated with relaxing herbs, as spearmint, catnip, or even lobelia if necessary; injections of the same with cayenne or ginger, and friction of the surface with stimulants. Teas of spearmint, peppermint or some other diffusive stimulants, must be given, weak and in small quantities, during the bath. They will generally be rejected at first, especially if they are strong or given in large quantities; but give them as above directed, and persevere until relief is obtained. Sometimes it is necessary to keep the patient on the cot-bath for twenty four hours together.

GENUS 173. RACHIALGIA.—Colica rachialgia, or pictorum. Painters' colic.

Character.—“Of slow access; pain in the stomach, extending along the intestines to the umbilical region, which is drawn backward toward the spine, with pain in the back and arms; the whole abdominal region painful to the touch, and the muscles drawn into hard eminences; frequent eructations and vomiting, with obstinate spastic costiveness; ineffectual attempt at defecation. If the disease is not speedily removed, it is liable to terminate in inflammation and gangrene, or in paralysis of the arms, and contraction of the fingers.”—G.

Causes.—Lead in some form, generally in paints, in white lead factories, in lead mines, etc., possibly in the lead pipes which conduct the water from the streets to our houses. Painting, grinding and mixing paints and making white lead, are very dangerous employments. We have had a number of cases of persons who had followed these employments, and we find them very obstinate. If lead taken into the system thus accidentally, produces such horrible effects, what are we to think of the scientific practice of giving the acetate of lead which is so frequently recommended in all the popular medical works, to cure forms of disease far less to be dreaded than that which it produces?

Treatment.—Avoid all injurious contact with the cause. The pain in the stomach, back, arms and intestines, is produced by the astringent action of the lead—of course the bath and lobelia are the proper remedies. Lobelia should be given in broken doses, steadily and perseveringly, both to the stomach and bowels, and the bath should be given on the cot, and continued

gradually until relief is gained. In the intervals of the bathings, the body should be poulticed, and rubbed with third preparation (tincture of lobelia and cayenne), and the enemas of lobelia and capsicum should be kept up frequently. After the bath has been used freely for some hour or so, the system will be, generally, so far relaxed that any mild cathartic will act on the bowels. It is highly improper to depend on cathartics to move the bowels generally, as the paralysis is already severe, and they tend to make it worse.

Electricity and animal magnetism are among the best remedies in paralysia. Isolate the patient and charge him, and brush him with the points of your fingers over the track of the paralyzed nerves, ten or fifteen minutes at a time, three or four times a day. Very slight shocks, now and then, will be useful. Neurological operations.

GENUS 174. TENESMUS.—Proctica tenesmus. Straining, griping.

Character.—“Painful and very constant desire for defecation, with, mostly, only a small discharge of mucus; suffering frequent exacerbations.”—G.

Causes.—Cold, irritating ingesta. Poisonous physic.

Indications and Treatment.—The first object is to warm and relax the pelvic regions. This is done by a vapor-bath, or by sitting in a warm bath, over the pelvis, or by spreading many folds of cotton or linen, as a sheet, on a stove a little below the hissing temperature, and sitting down on it for an hour; or by wrapping covers to the stove, warm bricks or rocks, or blocks of wood heated, in cloth or papers, and sitting on them, taking freely, before you sit down, of a tea of composition, or catnip or sage and cayenne, or ginger; or often merely sitting on a chair before the fire, with the sacrum fairly exposed to as much heat as it can bear for an hour or so.

The next is to cleanse the surface well, and stimulate it to action. This is done by the bath, and friction with stimulants. Lastly, if the spasm refuses to yield to the above, give a full course, and follow with what is directed above, and a good alterant course, and persevere until the system remains permanently relieved. Sometimes it is necessary to bathe or sit on the stove for several hours together. Tenesmus sometimes proceeds from acid irritation in the lower bowels, and an injection of a weak solution of potash, saleratus or soda, half a teaspoonful to half a pint of warm water, will act like a charm in relieving it.

GENUS 175. PROCTALGIA.—Proctica simplex. Pain of the anus.

Character.—Severe and unrelenting pain at the fundament without inflammation.”—G.

This form of disease often proceeds from the same causes as the preceding, and may be relieved by the same means. It sometimes develops itself, after a time, in the form of fistula, which see.

GENUS 176. HYSTERIALGIA.—Dolor uteri. Uterine pang.

Character.—“Severe spasmodic pains of the uterus and its pelvic appendages, spreading to the sacrum; directed to the exclusion of its contents.”—G.

These, when they do not occur until the proper time, I do not consider evidences of disease, any more than I do an effort to stool or to urinate. But, from cold or from injuries, or from poison or fright, the system often reacts and they occur too soon, when they are called false pains, and indicate a pathological condition of the organs. Either cold or injuries will irritate; of course our efforts should be to produce relaxation, which relieves irritation. If the organ has not been distended to its full capacity, the use of the bath

and of composition, raspberry leaf and cayenne tea, or sage, boneset or catnip and some cayenne or good ginger, or at most, a full course of medicine, will distend it, and the pains will cease for a day, a week and sometimes a month, when they will recur, and the same medicine will increase, instead of diminishing them. If they have been brought on by injury, the part should be kept warm and moist, and the system in good order.

Varieties.—1. *Parturiensis*.—Labor pains. These are not in themselves disease; but, if ill directed, or the system be in an unyielding state, they weary the patient unnecessarily, and leave her too much prostrated.

It is proper therefore to aid nature in this, as in all her other efforts to remove an offending cause, which the fetus becomes, as soon as it is ripe for parturition.

The relief should be obtained by giving warm, antispasmodic drinks, and keeping the pelvic regions warm and moist. If there is great rigidity of the external parts, cloths wrung out of hot water and applied as soon as they can be borne, fomentations with bitter herbs, or slippery-elm poultices should be applied. Or the patient may be laid upon the horizontal vapor-bath and retained there for some hours. See my work on Obstetrics.

2. *Secondaria*.—After pains.

Character.—Unrelenting, spasmodic pains succeeding parturition, directed in the same manner as above.

These, to some extent, are as necessary as the parturient pains. First, they expel the placenta; secondly, they are the sensations produced by the efforts of the system to expel the blood from the thickened uterus, and to diminish its volume. This, however, will be accomplished, in most cases, without much pain, if the patient be kept in a gentle perspiration and the bowels warm. If they are severe, she should have the bath for some time, or, where this is not convenient, let her sit, for an hour or so at a time, as often as she may need it, in a small wash tub two thirds full of warm water, and keep it warm by occasionally putting in more from a teakettle, pouring it down from a pint cup, at the side most distant from the patient, so as not to scald her. Wipe her dry and keep her warm. If these means prove insufficient, give a full course of medicine and follow with these.

Similar spasms occur in dysmenorrhea, and some other affections of the uterus. They should be treated in the same manner.

The general habit may be affected sympathetically, by the reflex action—

9. As the local concentrations emanating from the common morbid habit may impress the spino-encephalic system of nerves of external relation; altering their susceptibility, and the movements of their dependent organs. Giving rise to—

No. 35.—Order IX.

DIATHESIS SPINO-ENCEPHALICA DEPRAVITA.—Disease of the brain and spinal marrow.

"It may be proper to make three series of the diseases that especially affect the nervous system of external relation. *Firstly*, as affecting the muscular nerves of volition, and their organs; *secondly*, as affecting the nerves of sensation, and their organs; *thirdly*, as affecting the encephalic mass, and altering or modifying the intellectual functions. Each of these admits of two divisions, viz., as their functions may be *exalted* or *depressed*."—G.

"The common morbid diathesis, as depending on the system of ganglionic

influence, may be in very different states during the existence of disease of the present order" (G.); but the indications will always be the same, viz.: to equalize the circulation and nervous action, which is rightly done by removing all morbid matter, and withdrawing excitation from a part where it is excessive to the surface and lower extremities.

We have now entered on one of the most interesting branches of the Theory and Practice of Medicine. I have shown that the nervous system constitutes the check lines by which the vital spirit governs, as a coachman does his horses, the whole motive apparatus of the human economy, that every line or pencil or ganglion of lines in it, is antagonistic to some other line or ganglion, so that, whenever the function of one is exalted, that of some other is depressed. It follows of course, that, to equalize the nervous action and to sustain the equilibrium, is one of the most important duties of the physician. The art of doing it, involves all the principles of phrenology, and animal magnetism, properly termed neurology. But the practice, when once the science is understood, is very simple and effectual. Before proceeding further, the student will do well to return and re-peruse what I have said concerning neurology and mesmerism. See Index.

FIRST SERIES.

First Division.—Exaltation of the functions of the voluntary muscular organs.

GENUS 177. CONVULSIO.—*Sympathia convulsio. Convulsive fit.*

Character.—“Alternate contractions and relaxations of the muscles of voluntary motion, generally reiterated in rapid succession for several minutes; hands clenched, and teeth gnashing; intellect obscured in severe cases, but not in mild.

Varieties.—1. *Universalis.*—Affecting the whole body.

2. *Partialis.*—Affecting portions of the body.

3. *Parturientis.*—Uterine irritation metastatized to the encephalon; severe, reiterated clonic agitations; no recollection of any thing that transpired.”—G.

Causes.—The causes of convulsive fits, are numerous, being any thing that can suddenly and violently irritate the nervous system. Fright is perhaps the most common. The next is probably passion, as anger; then the retention of recrementitious matter in the system, by the suppression of the perspiration, the menses, and other natural evacuations. Fright produces such an irritable state of the nervous system, that it responds afterward to much lighter impressions of a similar character, as a mere surprise, or a little disappointment in any desired object. It is the same in those cases that are produced by anger. The suppression of evacuations excites the spasms only in cases of a peculiar sensitive nervous temperament. Still, as before, when once excited to that degree, they are recalled by the slightest action of the same character of causes.

The *Indications* are, to relax and cleanse the general system, and to equalize the nervous action and maintain that equilibrium.

Treatment.—In some of these cases, of a full sanguine temperament, there will be all the time an irritable state of the nervous system, which should be diminished. This demands the constant use, after a course, of the antispasmodics, as lobelia, the aromatics and the laxative bitters. In others, chiefly of nervous temperament, the nervous system has so overcome itself by repeated spasms, that there is a general habit of debility, and this must be met, after a course, by tonics, gentle and moderate exercise, fresh air, etc. In all

the cases, the system becomes more and more debilitated, and of course requires the latter treatment. It is also necessary at all times to keep the patient from exposure to the action of the causes, so far as they are ascertained, and to balance the mind by diverting the thoughts to different and antagonistic subjects and by neurological and magnetic operations. If the patient is so far impenetrable that you can put him into a deep magnetic sleep, demagnetizing his excited organs, as fear, combativeness, grief, etc., as the case may be, and magnetizing their antagonists, as firmness, benevolence, reverence, mirthfulness, etc., and keeping him so for five or six hours each day, you will be almost sure to cure him in the course of several months. If he is not so impenetrable, still the effort to do this, will be useful in quieting the nervous system and in finally restoring him. Oft repeated efforts, and by different intelligent and judicious individuals, sometimes succeed. While this treatment is progressing, the surface over the diseased nerves should be regularly rubbed with third preparation or some other relaxing and stimulating liniment. The relaxing teas and the bath are to be used during the spasmodic state, and the stimulants and tonics after the course. If the time of the spasms can be foreknown, give a course just before it. Then use tonics until the time passes by.

GENUS 178. EPILEPSIA.—Syspasia epilepsia. Falling sickness.

Character.—“ Severe agitations of the whole system of voluntary muscles, without consciousness; countenance livid, and horribly distorted; gnashing of the teeth, and often wounding the tongue; frothing at the mouth; paroxysms commonly ending short of ten minutes; involuntary emission of urine, and other excretions; succeeded by coma.

Varieties.—1. *Periodica*.—Returning at fixed periods; often curable.

2. *Organica*.—From organic changes in the encephalon; incurable.

3. *Sympathetica*.—Associated with some local defect in a remote part, and a sensation of coldness, or *aura epileptica*, slowly ascending to the encephalon.”—G.

Causes.—The causes of this form of disease, are the same as those of the preceding genus, and others of a kindred nature, such as disappointed affection, an undue development of particular portions of the brain, and its dependents; affections of the heart, etc. I have traced them to fright, to anger, to grief, to love, and even to excessive joy. Though I have removed, for a time, the susceptibility so far as to prevent the spasms and restore the general health, yet I have found this morbid habit among the most obstinate and tenacious, to which the human body is subject.

Indications as for the preceding genus.

Treatment.—The first variety, is generally the result of obstructions to periodical secretions, and, of course, the proper treatment will consist in restoring the secretions.

The best means I have used to accomplish this, are those recommended for the preceding case, and applied much in the same manner. In some cases, where there appeared to be a high grade of nervous action, I have used freely, lobelia, boneset, bitterroot, golden seal, cypripedium, scutellaria, asarum, and a great many other similar articles, after full courses of medicine, for the purpose of keeping off irritation and spasm; and with some success. In cases of debility, I have first given a course or two, and then used the best tonic and stimulant articles, as poplar bark, balmony, ptelea, prickly ash, columbo, etc., and it is well here also to use some of the relaxing alternatives, as sarsaparilla, spikenard, burdock, golden seal, etc. Among all the means that I

have used, none have been so effectual to equalize the circulation and quiet the nervous agitation, as the vapor-bath and neurological operations. The bath may be medicated by putting into it the same medicines that are given to the stomach. The neurological operations are suggested in the treatment of the preceding genus, and in other parts of this work. (See Index.)

I have good reason to believe that a number of obstinate cases of epilepsy have been permanently cured by these operations, by others as well as myself. (See "Keely's Facts and Scientific Miracles.")

The involuntary emission of urine and other secretions, is caused by the spasmodic action of the system, and may be generally prevented if the patient will be particularly careful to attend to the calls of nature as soon as they are made. Indeed I have often known the urine or the feces retained in too great measure, to become the irritating or immediate cause of the spasm, which of course, in its turn, expelled the offending cause. As too great exhaustion of breath, is often the proximate cause, we can not be too careful to require the patient to draw long and full breath, very often. He should also be requested to keep the mind perfectly calm under all circumstances. It should be neither too much elated nor depressed.

GENUS 179. HYSTERIA.—Hysteric fit. Hysterics.

Character.—"Irregular and protean agitations of the voluntary muscles, repeated in successive paroxysms, most commonly of uncertain duration; a sensation of flatulent uneasiness in the abdomen, ascending to the throat, which becomes constricted and swollen, called *globus hystericus*; followed by an abolition of consciousness, and spasms; in the intervals, mind often incoherent, with sighing, laughing or crying; copious limpid urine. Most commonly appearing in females, between puberty and the acme of life, having movable, sanguine temperaments, and at catamenial periods."—G.

Causes.—Obstructions to the physiological action of the female organs, is the most common exciting cause. The remote cause may be in the temperament of the patient, or the circumstances affecting the mind and passions with which she may be surrounded.

Indications.—These are the same as for the two preceding genera, and the *Treatment*, will vary only so far as to accommodate the locality and period of the disease. The "*Globus hystericus*," is relieved by the bath, by friction with stimulants, and by drinking weak antispasmodic teas, as lobelia, boneset, catnip, sage, spearmint, and by enemas of a stimulating character. The incoherency of the senses during the intervals, will be relieved by a course, and frequently by neurological operations.

One of the most common causes as well as the worst, is the unkind treatment of the other sex, and this is also one of the most difficult to remove. Yet even this, *may* arise from the natural ill temper of the patient, and then the obstacles to a cure are still greater. All these must be removed before the cure can be effected.

In all these forms of nervous affections, the diet should be of the vegetable kind, the most soothing in character, and the most easily digestible. Should the stomach become sour, a supper should be omitted, and the next two or three meals be made of dried beef, venison or lean mutton, to rid the stomach of acid. The fast may be sometimes succeeded by a gentle neutralizing cathartic, and the next day the dried beef, etc., may be eaten, and the third, there may be a return to the vegetables, fruits, etc.

Various articles supposed to be specifics, have been recommended for this form of disease, and the preceding; such as *adinatum pedatum* (*maidenhair*),

Leonurus (motherwort), camphor, loaf sugar and gum arabic, rattleweed, blue cohosh, etc., but they produce this effect only because they are good alterants—and will relieve other forms of neurosis just as well. Superstitious and necromantic operations (properly so called because their philosophy was not understood), such as paring the toe nails, and burying the parings by moonlight in the body of a cedar tree in the middle of a swamp, have been successful in removing the disease because they produced the neurological effect upon the patient.

GENUS 180. CHOREA.—St. Vitus' dance.

Character.—“Convulsive and irregular agitations of various muscles of the body or limbs, when attempted to be moved by the will. Sensation and consciousness not disturbed; occurring in young persons and liable to continue some time.”—G.

“The convulsive motions are sometimes preceded by yawning, stretching, anxiety about the heart, palpitations, nausea, difficulty of swallowing, giddiness and pains in the head, etc. To these succeed a kind of lameness or instability of one of the legs and arms, which are agitated by convulsive motions, and in walking, the leg is drawn along in an awkward or ridiculous manner, the arm is so affected that it can not be held still for a moment, and in every attempt to drink, the patient uses various singular gesticulations, and at length pours the liquor down his throat with great haste, as if he meant to afford amusement to the bystanders. In some instances, the head and trunk are likewise affected in a similar manner, and there are frequent fits of leaping and running, often accompanied by confusion of mind, and weeping and laughing, as in hysteria. The countenance is pale, the eyes lose their luster; deglutition is performed with difficulty, and there is sometimes an impediment of speech with impaired appetite and digestion.”—Thacher.

Causes and Indications.—Chorea, like the two preceding genera, proceeds from nervous irritation of some form, and is, like them, acute or chronic, that is, the system is either in a highly excited state and needs the constant use of antispasmodics, or in a prostrate condition, and demands the best tonics after a course, as alternatives and restoratives, and these states may have supervened either suddenly or gradually.

The *Treatment* therefore, must correspond to the present indications. I believe it is best in all cases, to give, occasionally, a full course of medicine, and, in the acute or sthenic cases, follow it with the best antispasmodics, of a steady and permanent character, such as boneset, scutellaria, apocynum, cypripedium, asarum, and the like.

In the chronic or asthenic cases, the course should be followed by articles of a more stimulating and tonic character, as xanthoxylum, ptelea, poplar, columbo, cloves, cayenne, etc. In the first case, the teas taken during the course should be relaxing or stimulating according to these conditions. The whole treatment in the last three forms of disease, should be accordant with this plan; for, though different organs are affected, giving rise to different peculiarities in the symptoms, yet they are all derangements of the nervous equilibrium, and must be cured, if at all, by a restoration and maintenance of that equilibrium. The same remedies are equally useful in the same stages of all these different forms. Nor must it be forgotten that neurological operations, and proper food and exercise, fresh air, and a steady moral and intellectual influence, are indispensable in all cases, to the best interests of the patient. The subject should never be annoyed by impatient and fretful attendants. One such, only occasionally in her presence, will do more injury

than all your good medicines and other kindnesses can overbalance. He will be to the patient what Mordecai was to Haman. The nurse should be the most intelligent and the best tempered person to be found, and a good neurological operator.

GENUS 181. SUBSULTUS.—Clonus subsultus. Subsultus tendinum. Jerking of the muscles.

Character.—“Involuntary contractions of separate muscles, thereby moving their tendons; reiterated at slow and uncertain intervals; a symptom of organic irritation.”—G.

Well, if it is a mere symptom of organic irritation, the indications are, as in the preceding cases, to remove all the irritating causes, by courses, and to maintain, by alterants, proper food, exercise etc., the nervous equilibrium. I have seen this symptom in connection with various forms of disease, but have had little trouble in subduing it.

GENUS 182. PARALYSIS TREMULA.—Paralytic trembling.

Character.—“Chronic tremulous agitation of the head, limbs, and sometimes of the whole body, especially when directed by the will; occurring in elderly persons, and occasionally in nervous habits.”—G.

Causes.—Irritation and prostration of the nervous system; from cold, improper food and medicines, the passions, etc.

This is but another variety of nervous derangement, and the equilibrium is to be restored and maintained in the same manner as in the last cases. It must not be forgotten that friction with the medicines, or uniting them with the bath, will have the same effect as giving them internally, and that this mode of administration should be adopted whenever it is practicable.

GENUS 183. PALPITATIO.—Palpitation of the heart.

Character.—“Irregular, convulsive or vibratory motions of the heart, with corresponding irregular undulations of the pulse; sometimes severe, with precordial distress; at other times mild.”—G.

Causes.—Confinement of the chest, collapse of the arterial capillaries of the surface and lower extremities, by cold, by retained excrementitious matter, and by blood-letting and the debilitating influence of poisons. Sometimes by fright, surprise, etc., when it is only temporary.

Indications.—To equalize the circulation and promote the secretions, and to maintain the action of the surface, especially of the extremities.

Treatment.—A course of medicine with frequent baths, and friction with stimulating liniments to the surface and lower limbs. Laxative and stimulating alterants and nervines, and the bowels kept free with enemas.

GENUS 184. INTERMITTENS.—Anetus. Intermittent fever. Ague and fever.

Character.—“A succession of paroxysms during its course, having a freedom from fever in its intervals. Commencing with languor, yawning, corrugation, and coldness of the skin; horripilation and sudden sensation of extreme coldness, especially along the dorsal region, quickly followed by tremors and convulsive agitations of all the voluntary muscles, which continue for several hours; countenance livid; precordial distress; thirst; insensibility to heat while there is an increased sensibility to cold. At length, the convulsive agitations abate, and responding action is manifested by heat, pain, throbbing of the arteries, and finally followed by profuse sweats, and an inclination to sleep.”

I have given, in Nos. 54 to 59, an outline of the nature, and of the

indications of these forms of disease, which I wish the reader to re-peruse before he proceeds.

He may then return and consider what I here say on the subject. I need only to repeat the indications and treatment.

The *Indications* in intermittents, are, to aid the efforts of the system in removing the obstructions, and to tone it up.

Treatment.—The first thing is to give warming medicine, say composition or cayenne and some of the canker teas, for an hour or so, and then a thorough vapor-bath. The best time to commence giving the medicine, is about an hour before the patient expects the chill, because this is the time when nature commences her efforts, and of course will need the least aid from a doctor. But, any time will do. When the chill commences, is the best time to go into the bath, which should be moderately warm at first, and the temperature increased as it becomes pleasant to the patient. When in the bath, let the patient have his feet in a tub of hot water, and be washed all over thoroughly with soap and warm water, then bathed until the perspiration becomes free and warm. Then let him be wiped (not dashed with cold water), dressed or put into a bed, and thoroughly vomited. After he is well rested, let him have a stimulating enema and be bathed again until the perspiration becomes free, and he is thoroughly warmed, and then dashed with cool water and rubbed thoroughly dry. Now give him a bitter consisting of dogwood bark, ptelea, cloves, prickly ash, cayenne, gum myrrh and nutmeg (equal quantities), all finely powdered and well mixed with an equal portion of white sugar; a teaspoonful three times a day a short time before meals, or let it be made into a conserve instead of giving it in powder. Let the surface be rubbed every day with stimulating liniment, and let the patient be preserved from exposure to great and sudden changes of temperature, particularly to a change from warm and dry to cold and damp. The bath and friction may be repeated every day for three or four days, but the emetic will seldom need to be repeated if faithfully given at first. I never knew this treatment fail to break an ague after the first course. Others have given and so have I, in some instances, equal parts of cayenne and quinine, half a teaspoonful, six hours before the chill, and stopped it, in some cases without an emetic. I have never seen any ill effects from the quinine, though I have given that quantity every hour for six or eight hours. Some give a heaping teaspoonful of the same compound all at once, some six hours before the time of expecting the chill. Dr. Sappington makes his pills, of quinine, forty grains; liquorice thirty grains, gum myrrh ten grains. The cayenne should not be omitted. Some of our practitioners think that quinine is innocent when thus used with cayenne. I do not, and therefore have used no quinine for a long time. I find other articles, as dogwood bark, etc., above mentioned, equally useful and more safe, and their cures more permanent. Wild cherry bark, alder bark, Jesuit bark and asarum, have been used with good effect as restoratives in these cases as well as others of debility.

GENUS 185. INTERMITTENS QUOTIDIANA.—*Anetus quotidiana*.—G. Daily ague.

Character.—“Paroxysm commencing twenty-four hours after the first, usually in the morning, and ending in less than eighteen hours.

Varieties.—1. *Anticipans*.—When the paroxysm commences earlier, by about an hour.

2. *Protracta*.—Paroxysm continued so as to have a shorter interval.

3. *Tarda*.—When the paroxysm is retarded, or delayed in its beginning.

4. *Complicata*.—When assuming a febrile diathesis, and having local determination, as to the kidneys, hips, liver, spleen, side, head; changing into hysteria or epilepsy.”—G.

An attentive observation of the course of intermittents, and a uniform success in their treatment, have fully satisfied me that their essence consists in a regular running down, in consequence of obstructions, until the irritation becomes so great as to provoke a powerful reaction to recover the healthy standard. In the quotidian and regular form, wherein the paroxysm returns at the same hour each day, this relaxation and reaction are about equal, so that the patient becomes neither much better nor much worse.

If, however, the strength of the system is recovering, or you give stimulating medicine, or if the nervous irritability increases, the paroxysm will come on sooner in the day. This will constitute the first variety, *anticipata*.

When the power of the system is considerable, and the irritability is great, the febrile paroxysm will be prolonged, and yet return at the same time of day. This is called *protracta*.

When the irritability is moderate, or the obstructions are trifling, the paroxysms may be retarded in their daily returns. This is called *tarda*.

When there is so much irritability in the system as to keep up an excitement the most of the time, it is called *complicata*.

In every case, the chill or ague, is the effect produced on the nervous tissue of the surface, by the stimulating power of the blood, on its return, after a partial absence; on account of which those nerves had lost a degree of their ordinary impressibility.

Blood-letting and poisoning often protract the periods between the paroxysms, and render the latter weaker when they occur, while stimulants of a healthy kind, bring them on sooner, and increase their power, and, if there is much obstruction in the system, prolong their duration.

In all cases, the *Indications* are, to remove all morbid material from the system, to equalize the circulation and nervous action, and to restore the tone of the organs. If the course is commenced by giving hot medicines and a bath, just as the chill comes on, an emetic when the fever commences, and an enema after the emetic, followed by a very thorough bath as warm as the patient can comfortably bear, then dry rubbing, followed by tonics as before mentioned, the result will be more easily and speedily obtained, than if it is commenced at any other time. But it may be commenced at any time with advantage.

When the disease is connected with “local affections of the kidneys, hips, liver, spleen, side, head,” etc., it is rather a symptom of these than a cause of them, and should be treated both upon the above principles and according to the directions for treating those several affections. The course should be of the stimulating and tonic character.

As the chill is a nervous excitement, caused by the sudden return of the blood to the surface, after an absence to such a degree as to deprive the superficial nerves of their ordinary impressibility; so the scientific and philosophic prevention of a chill consists in keeping a due measure of blood continually on the surface, and preventing the “stage of lassitude.”

GENUS 186. INTERMITTENS TERTIANA.—*Anetus Tertianus.* Tertian or third day ague.

Character.—“Paroxysm commencing forty-eight hours after the first, usually at noon, and ending in less than twelve hours.

Varieties.—1. *Tarda*.—Having a short and imperfect intermission.

2. Complicata.—Giving rise to other diseases, as dysentery, syncope, lethargy, apoplexy, etc.”—G.

Here, again, the paroxysms may be retarded by the same causes that operate to retard them in the preceding genus. A quotidian retarded for twenty four hours makes a tertian. It may, as before, be retarded either because the vital dominion is stronger than the opposition, or because it is weaker. In the first case, the patient does not run down so fast nor go low, and of course is recovering. In the second, he runs down so fast and so low that the vital power does not react so soon nor so effectually. Of course, he is growing worse. In the former, he gains health, strength, and spirits; in the latter, he loses in all these respects.

A thorough treatment will keep up the action and postpone the chill, or prevent it altogether. A bad treatment may reduce the patient's strength so that there will not be power to produce a reaction. In both cases, the paroxysm is postponed, and the patient is growing worse or better, as the disease or the vital power is producing this effect.

In the complicata, the febrile paroxysms do not give rise to the other affections; the causes of these produce the irregularities of the fever; that is, they disturb it in such a manner as to render its action irregular, and therefore they should be treated as elsewhere directed for each form of disease, which see.

GENUS 187. INTERMITTENS QUARTANA.—Quartan ague.

Character.—“Paroxysm commencing seventy-two hours after the first, usually in the forenoon, and ending in less than nine hours.

Varieties.—1. *Anticipans.*—Paroxysm beginning earlier.

2. *Tarda.*—Delaying its usual period, commonly two hours.

3. *Complicata.*—Giving origin to numerous other diseases.”—G.

The same causes produce the anticipation and postponement in this as in the tertian and quotidian.

The *Indications* and *treatment* are the same. It gives origin to no other disease, but the same causes which excite it, will, if not removed, produce various other forms of disease which must be treated as directed under their proper heads.

GENUS 188. INTERMITTENS ERRATICA.—Irregular ague.

Character.—“The paroxysms irregular in point of time, as, whether they may be on the fifth, sixth, seventh, eighth, ninth, or tenth day, having an interval of more than seventy-two hours. Irregular in point of severity of paroxysm.”—G.

This is like the last, only the causes act still more irregularly.

The *Treatment* will be of the same character in general, and varied as the symptoms arise.

GENUS 189. INTERMITTENS COMPLICATA.—Anetus complicatus.—G. Complicated ague.

Character.—“Paroxysms multiplied and intricate; consisting of tertian or quartan periods.

Varieties.—1. *Tertiana duplex.*—Double tertian. Paroxysms of the one tertian, occurring in the intermissions of the other; yet having a difference of severity and continuance. One paroxysm every day, yet a difference in severity; occurring at noon.

2. *Tertiana triple.*—Triple tertian. The double tertian; yet one of the sets having two paroxysms on the day of its return; the other but one. The

last two varieties differently combined, constitute double tertian, double and triple quartan, etc.

" It may be noticed in illustration, that, in many cases, the shorter the intermission, the longer the paroxysm will be. Again, the longer the paroxysm, the earlier it commences in the day. And, furthermore, the longer the cold fit, the less durable the other stages. The quotidian has the slightest cold stage, but the longest paroxysm. The quartan having the shortest paroxysm, has the longest cold stage.

" Nature having impressed a law on the nervous system of external relation, whereby its functions are performed in regular rythms especially of repose and activity ; intermittents as well as many other diseases of the nervous system, are bound to it, and receive their modifications from it. This is more particularly the case, when not complicated with a decided congestive location in the viscera, under the dominion of the ganglionic nerves."—G.

Let us now suppose that, for each of the five preceding genera and their varieties, the symptoms were accurately described and the prescriptions completely made out ; what should we do with this complicated form ? Should we combine all the several remedies that have been prescribed for each of the simples ? Doubtless we should, but, to what do they all amount ? There must be relaxation, stimulation, cleansing and toning, and these will clear the system of the causes of disease, be the type or the symptom what it may. The irregularities in the recurrence of the paroxysms, arise from the different states of the system, and degrees of morbid impression.

The course of medicine is a regulating course. Its tendency is to bring all deviations from normal conditions back to the healthy standard. What can effect this so well as a thorough course of medicine ? And what can maintain that condition so well as our tonics, baths, stimulants and frictions ?

For the *Treatment*, then, of this complicated form of the disease, I refer to the instructions already given for the whole tribe, under Genera 184, 185, a faithful and persevering application of which, I have never known fail to cure the disease, in any of its forms.

Dr. Gallup remarks, that " the shorter the intermission the longer the paroxysm will be, and the longer the paroxysm, the earlier it commences in the day," because, as I said, the disease is a depression of the organs, and is opposed by the vital power. The lassitude is a symptom of disease, and the chill and fever of the reaction of the vital force against its cause. The more frequently either gets the advantage, the longer it will maintain its dominion, and the sooner it will commence its operations, until it gains full control. This is the reason why " the quotidian has the longest fever and the shortest chill," and " the quartan has the shortest fever and the longest chill."

But to these remarks there are many exceptions depending on the relative power of the vital organs and the opposing causes of disease. The only true doctrine, is that nature works as often as she can, and as long as she can, to remove the causes of disease, and yields, when she is so fatigued that she must or can work no longer. The chill is not always an exhibition of cold, for it is felt when the temperature of the surrounding atmosphere is about that of the body ; as in the vapor-bath. It is the same that is felt after fainting or fright, and from the same cause.

It is strange that, in the light of these facts, physicians should bend all their efforts to the postponement of the paroxysm, the natural enemy of the disease, instead of aiding it to remove the morbid cause—that they should consider this postponement, though connected with great prostration of the vital powers, a favorable sign, and therefore count the protracted fever less

dangerous than the anticipated ! and should endeavor, as they do, to turn, by blood-letting and poisoning, the latter into the former. But all this they do, while the Botanic physician regards the quotidian as the least dangerous, and endeavors to bring on the paroxysms as early, and continue them as long as possible, or until all morbid causes are removed. And the result of the two practices tells which side has the true principles.

It is true that all the operations of the system are performed in regular rythms, so far as the *order*—the relation of cause and effect, is concerned ; but the *time* of these rythms, that is, the interval between them, will be extended or cut short, according to the character of the treatment. The depression of the vital powers will postpone the physiological rythms ; their restoration, will accelerate and strengthen those rythms. In all cases, then, it should be the business of the physician to remove all morbid causes, and restore the vital energies.

Dr. Gallup remarks, "should an objection be raised against exalting the species of intermittents to the rank of genera, it might be replied, that it comports with the other arrangements that we have followed. The same objection might be made against all the phlegmasiae, as well as other spasmodic disease." True.

Neither have they any claim to the distinction of genera. They are all, intermittents and phlegmasiae, only departures of the nervous and sanguiferous systems from a healthy standard ; they must all be relieved by restoring the equilibrium of the circulation and the nervous action ; and the means of doing both these are precisely the same. Relax—counter-irritate—cleanse—tone, constitute the indications in all these cases—antispasmodics, the bath and stimulants, with friction, and tonics, exercise, etc., constitute the *means*.

SECOND DIVISION.

Diseases of depression of the functions of voluntary organs.

"The phenomena of diseases of this division are considerably different from those of the last. In that, the functions of the organs are exalted, in this depressed. The pathological circumstances of the involuntary organic system affect the encephalon and its appendages, essentially through the medium of the vascular system. So the heart and all the organs under the dominion of the ganglionid influence, may be in vigorous exercise, while the spino-encephalic, and its dependent organs, are quiescent."—G.

They differ in no other respect than this, that, in the former the vital powers generally have the advantage of the chemical, and the mechanical, in the dispute for the right of possession, while in the latter causes of disease have acquired a more complete and permanent dominion. In the former the exaltation and depression are alternate and nearly equal ; in the latter, the depression is more predominant and permanent, and of course the practice should be more thorough and constant.

GENUS 190. APOPLEXIA.—Carus Apoplexia. Apoplexy.

Character.—"Suspension of the functions of sensation, motion, and intellect ; deep sleep ; sonorous breathing ; respiration slow ; pulse rather slower than natural, and full ; attack sudden ; attended with a general morbid habit.

Varieties.—1. *Sanguinea.*—Occurring in plethoric habits, and attended with hemorrhage in the encephalon.

2. *Serosa.*—Occurring mostly in leuco-phlegmatic habits, and attended with serous effusion into the brain.

3. *Congestiva*.—From sudden dilatations of the encephalic blood vessels, sometimes at the attack of malignant fevers; also, from narcotics; from ebriety; from passion; from oppressive substances in the stomach; from rigidity of cerebral capillaries in aged people.'—G.

Causes.—The causes are given in the varieties.

Indications.—In all cases, to avoid narcotics, violent passions and indigestible substances. To eat but a moderate quantity of food, to take moderate, but regular exercise in the open air, and to restore and preserve, at all times, a perfect equilibrium of the passions and of the circulation and nervous action.

Treatment.—When the fit is on, pour third preparation of lobelia between the cheek and teeth, and administer it by injection to the bowels; apply camphor, or volatile salts to the nose, and rub the surface of the chest with the dry hand. If convenient, apply electro-magnetism, electricity or galvanism. After the fit is over, give a thorough course of medicine, and repeat it as often as necessary, which will depend mostly on the judiciousness and faithfulness of the intermediate treatment. This should consist, in addition to the above precautions, in the daily use of the bath, of the best alterants, and diffusive stimulants, and of physical instead of mental exercise, with a light, plain, vegetable diet. The neurological and magnetic operations should be continued during the whole curative process, or until all the organs of the system fully perform their proper functions.

GENUS 191. PARALYSIS.—Carus Paralysis. Palsy.

Character.—“ Sudden loss of sensation, or of motion, or both, in a part of the body.

Varieties.—1. *Hemiplegia*.—Affecting one half of the body, from the median line; loss of sensation and motion, with weakness of intellect and articulation; face contracted to the sound side; acknowledging nearly the same pathological circumstances as apoplexy, only partial, and not attended with somnolency.

2. *Paraplegia*.—Affecting the lower half of the body, from circumstances impairing the function of the spinal cord.

3. *Partialis*.—From inability of function of some particular nerve, as in *paralysis facialis*.”—G.

Paralysis, to some extent, is a very common form of disease. It is either idiopathic, primary, as in cases of poisoning by lead, mercury, etc., or sympathetic, the result of debility produced by various forms of disease. In either case—

The *Indications* are, to rouse the affected part to action, cleanse out all morbid matter, and tone the nervous system.

Treatment.—The treatment will be essentially the same as for the preceding form of disease. I have found the isolation of the patient, charging him with the electric fluid, and drawing it out over the affected part, rubbing of the part with the hand and powerful stimulants, as a vineger tincture of cayenne and lobelia, and the frequent application or the vapor-bath, the best remedies for paralysis from whatever cause and wherever seated. Indeed, they, with occasional courses, constant alterants, a light and nourishing diet, gentle exercise, and a cheerful temper, will cure all curable cases.

In cases of paraplegia from mercury, I have directed a jet of vapor half a day at a time for several successive days, directly upon the spinal column on the lumbar vertebrae, and effected a cure. The galvanic bath is very useful in paralysis from mercury.

GENUS 192. CATALEPSIA.—Catalepsy. Trance.

Character.—“Suspension of motion, sensation, and intellect; pulsation and breathing not affected; limbs flexible, and retaining a given position; countenance florid, eyes open, and intently fixed, but without vision.

This is not, in general, disease. It may be produced in impressible subjects by the operations of neurology or animal magnetism, and often to the great improvement of the general health of the patient. In case, however, it becomes, from religious or other excitement, a habit of frequent occurrence and long continuance, it will destroy the balance of mental power, and become a cause of disease. In this case, magnetize the patient fully, and then exert your will with his, that he may not, in future, go into that state. The medical course calculated to equalize and sustain the nervous action, as above directed, will also be useful.

GENUS 193. LETHARGUS.—Lethargy, coma. Morbid sleep.

Character.—“Quietus of body and mind; morbid sleep, of several degrees of intensity, from which the subject can not easily be roused.

Varieties.—1. *Absolutus.*—Impossibility to excite sensation, motion, or consciousness.

2. *Cataphora.*—Short intervals of imperfect waking.

3. *Vigil—coma-vigil.*—Torpidity of sensation and motion, but imperfect quietus of mind; incoherent ideas, and disjointed talk, without consciousness of having slept, when thoroughly awakened. This variety is also called *typhomania*. They may all appear as symptoms in pyreptic disease.”—G.

Causes.—This excessive and intense sleep is always the result of a prostration of the nervous system, either by obstructions or by over action, and is of course symptomatic.

The *Indications* are, to remove the obstructions and equalize the action of the nervous system, and restore its tone. In the former case, a course or two of medicine will generally do the work; in the latter, lobelia and other more permanent antispasmodics should be constantly used, and an emetic as often as morbific matter appears to accumulate. The bath also is very essential. The surface of the skin should always be kept clean and the clothing and sheets often changed.

GENUS 194. VERTIGO.—Dinus Vertigo. Dizziness.

Character.—“An apparent whirling round of objects, or swimming of the head; often with dimness of sight; sometimes a sense of undulation in the ground; loss of judgment and muscular balance, and the subject is liable to fall; often followed by headache. Sometimes a chronic affection, attended with milder symptoms.

Varieties.—1. *Illusoria.*—Imaginary objects before the sight.

2. *Scotoma.*—Blindness and faintness; *nervous fainting fit.*”—G.

Causes.—This symptom of disease almost uniformly proceeds from a foul stomach, sometimes from cold feet and hands, or a determination of the blood to the brain; and this latter effect is often produced by intense study in a cool room.

Indications.—To equalize the circulation, which, in the second and third cases, with the cessation of the causes, is all that will be necessary. In the first case, a full course with an alterative treatment, will be needed.

Remarks.—“The two following will be offered as affecting the two divisions of the nervous system, the external and internal; or, in other words, the

The treatment will consist in cleansing the stomach with a course, and attracting the attention, and fixing it on the surface and lower extremities, by frequent baths, hot and cold shower, pediluvia (soaking the feet in hot water), and rubbing them and the general surface with stimulating liniments. Neurologists and magneto-electric operations are good for it. The mildest kind of exercise should be taken, and exercise, if not to fatigue, is indispensable.

PLATE 39. HEMICRANIA.—Periodical headache. Megrin.

anæsther.—"Severe strictured sensation over one half of the head, with intense pain in a small circumscribed spot over the parietal bone, or in the nose, occurring by paroxysms, and often periodical; sometimes connected with a carious tooth, or a sequel of intermittent fever."—G.

— Too much excitement in that part of the brain, either by intense injury inflicted on the surface. Narcotic poisons; morbid various tooth, etc.

ECZEMA—To equalize the nervous action and cleanse and tone the system. This is done as for the preceding genera. The "circumscribed spot" should be rubbed with lobelia in some form (vinegar tincture is good). Other parts should be stimulated by the application of electricity, by neurological stimulation, or by friction with stimulants. When it proceeds from a defective condition, correct it.

— 21 — NERBUN = T. Jeuleux.

SCHISTOSIS.—“Acute, lancinating, insufferable pains, following the course of nerves of sensation of a part, exciting spasms in the neighboring muscles; occurring by short and uncertain paroxysms; excited by any slight impression of the part; continuing a long time. Most affect the skin, but in rare cases the fascia and muscles are supplied

Facial Nerve — This nerve supplies the muscles of expression, and the sweat glands in the face; it also transmits the sense of touch from the skin of the face, and the sense of taste from the tongue.

large watercourse in the north of the country.

Dise—showing the signs in a similar manner; very per-

"—G. —— severe pain, and without vascular
all —— (and especially in aged nerves). Indeed it appears
more, when, however, a large family under the Genus Neu-
rofibroma, and, perhaps, even in the pectorum, etc."—G.

What is the chief symptom of disease of the sanguiferous vessels or of the nervous system? But inflammation of the vessels, especially their arrangement, a disease which is more serious than fever or inflammation of the body, produces by over excitement of the nervous

the word produced the preceding form, but
producing different effects, according to the
order of the words.

directly to the part affected by rubbing it on with the hand. Then a bath, and, if necessary, an emetic. During the intervals give the best alteratives of a relaxing and antispasmodic character, as boneset, golden seal, sarsaparilla, burdock, bitterroot, and scutellaria; asarum, xanthoxylum berries, ginger, spearmint, peppermint, etc. I have cured all the cases of what is called Tic Douleureux that have come under my care. Some with courses, the bath and alterants—others with alterants and neurological operations. In these cases, I brush from the part affected, and stimulate the opposite organs. When the pain is "very persistent," the operations must be equally so, whether they be medical or neurological, or both together.

GENUS 201. ODONTALGIA.—*Odontia dolorosa*. Toothache.

Character.—"Acute pain in the teeth and jaws, without swelling.

Varieties.—1. *Cariosa*.—Severe, sharp pain, continuing an indefinite length of time, having exacerbations; referred to the carious tooth, but extending into the jaw.

2. *Nervosa*.—Severe sharp pain occurring by paroxysms, slowly spreading along the fifth pair of nerves from the teeth to the face, ear, and temples, and sometimes over the parietal bone; then gradually subsiding; simulating neuralgia.

3. *Sympathetica*.—From general irritation concentrating to the dental nerves, without caries, or any evident cause, as in the first months of pregnancy."—G.

In the first variety, it is sometimes practicable to remove the carious parts of the tooth, and then to plug it and save it. Many kill the nerve with creosote; some by thrusting a sharp wire to the bottom of the cavity, and then plug and save it. I have often relieved it for a time by neurological operations, also by the vapor-bath; but it will return again while the nerve of the tooth remains exposed. It should be plugged or drawn.

The second variety should be treated with courses, baths, poultices and neurological operations, and the patient should not be suffered to take cold. The teeth should not be drawn until they are so much affected as to be incapable of being saved by plugging.

The third variety should be relieved by removing the cause when practicable. When not, it should be borne with patience. It is the custom of most persons when they feel pain to give the utmost tension to all the parts affected. This only increases the suffering, unless it is carried to such an extent as to benumb them. They should relax themselves as much as possible, and nine times in ten they will thus gain an entire relief from nervous suffering.

This relaxing process, which is produced by standing, sitting or lying entirely at one's ease, will often relieve fever and inflammation. In the latter case, the part should be elevated above all other parts of the body, and the patient should exercise the most perfect indifference to pain, should throw all his limbs loosely from him, inhale a full breath and care for nothing.

GENUS 202. GASTRODYNIA.—Stomach pain.

Character.—"Oppressive, unrelenting pain in the epigastrium; weakness; loss of appetite; pain on pressure; very persistent and rarely remitting."—G. A spasmodic affection of the muscular coat.

iritating ingesta—food or drugs.

A course of medicine to cleanse the stomach and equalize the tone, relaxing and tonic alterants and aromatics, with friction and massage with stimulants, to produce

counter-irritation. The bath and the cold dash, and rubbing with a crash towel, every day, will be found very useful.

GENUS 203. PLEURODYNIA.—Pleuralgia chronica.—G. Side pain.

Character.—“Fixed, permanent pain in the side, of long continuance; not relieved by any position, but aggravated by lying on the affected side; tenderness on pressure, and frequently along the course of the intercostal nerves to the spine; breathing not affected.

Hypochondriaca.—Similar pain and tenderness, seated in the side below the spurious ribs; or above the os ilium.”—G.

Causes.—Most commonly compression of the chest or bad habits of body, such as stooping forward or sitting in bad positions. Retention in the part, of irritating materials.

Indications.—To relax the system, remove morbid matter, correct the habits, and tone up the parts affected.

The first and second are done by a course, the third by straightening up the body, throwing the chest and abdomen forward and the shoulders back, and inhaling a full breath. The last is best effected by the use of electricity and neurological operations. Isolate and charge the patient, and draw out the fluid over the sore part, or use the electro-magnetic machine. The diet should be plain, nourishing and moderate in quantity, and of such a character as to keep the bowels open.

In all the above cases, the object should be to equalize the nervous action, cleanse away the obstructions, and maintain the equilibrium.

GENUS 204. ISCHIAS NERVOSA.—Arthrosis coxendicis.—G. Sciatica. Coxalgia. Hip disease.

Character.—“Severe and persistive pain, with tenderness, seated in the hip and back part of the thigh, without swelling; bearing some resemblance to chronic rheumatism, and involving the ischiadic nerve; limb liable to numbness and atrophy, as well as emaciation of the whole body; febrile habit; often followed by a retraction of the hip from muscular contraction.”—G.

Causes.—Irritation of the sciatic nerve.

Indications.—To equalize the circulation and nervous action, and maintain the equilibrium.

Treatment.—A few thorough courses of medicine, frequent vapor-baths, stimulating plaster over the part, electricity—alteratives. The electricity should be carried through gradually, or, at most, by the electro-magnetic machine. Not in severe shocks.

Although Dr. Gallup puts down the character of this division of the order as an exaltation of the nervous system, yet he should remember that, whenever there is, for any length of time, too much action in any part of the nervous (as in the sanguiferous) system, there is a proportionate diminution of action in some other part; and the business of the physician is not to diminish the high action by direct sedatives, but to equalize it by diffusive stimulants, and by local excitation to the inactive parts. So,

In the following, where there is a diminution of a given sense, some other sense or nervous arrangement, is frequently too much excited. But, in general, these are only the chronic stages of the preceding forms. The former is the inflammatory condition, the latter is the over wrought and prostrate. Like all the preceding, they must be treated by equalizing the nervous action, and rendering it permanent.

Diminution of the sense of touch.

GENUS 205. ANESTHESIA.—Paropsis expers. Numbness. Total insensibility to objects of touch.

Character.—*Varieties.*—1. *Simplex*.—“Numbness confined locally or generally to the sense of touch; sometimes accompanied with uneasiness.”

2. *Illusoria*.—Imaginary sense of touch, or general feeling in organs that have no existence, as after amputations.”—G.

Causes.—Poisons, prostrations from over excitement. Similated in animal magnetism.

Indications.—To arouse the sense of feeling, and support it.

Treatment.—The bath, friction with third preparation, or a strong vinegar tincture of cayenne and lobelia. Electricity, by charging and drawing it out all over the body; neurological operations.

In the illusoria, the same course should be pursued, except when a limb has been removed. Here nothing should be done. The illusion wears off in time.

Diseases of exaltation of the sense of sight.

GENUS 206. RETINITIS CHRONICA.—Protracted inflammation of the retina.

Character.—“Acute sensibility of the retina; vision indistinct; intolerance of light, which, if permitted to strike the retina, produces shrieks and agonies. Slight symptoms of irritative fever, with occasional headache; often persisting for many years; emaciation; increased sensibility universally.”—G.

Causes.—Too much light by reflection from tin roofs and other bright objects. Heat reflected from pavements, brick walls, etc., long and severe reading of books of very white paper and open print. Too severe and too long continued use of the eyes for any purpose.

Indications and treatment are, to equalize the nervous action, cleanse the system, avoid the causes, and tone up the whole man.

GENUS 207. NYCTALOPIA.—Paropsis lucifuga.—G. Night sight.

Character.—“Vision painfully acute in strong light; but clear and pleasant in the deep shade, or the dusk of the evening.”—G.

Causes.—Exposure of the sight to a too severe light, or too long at a time.

Treatment.—The same as for the preceding.

Diminution of the sense of sight, or indifference.

“The future definitions of the organs of sense will be mostly copied from Good; omitting some, and varying the order of others. We freely grant that most of these are local affections, and only secondarily disturbing the general habit.”—Dr. Gallup.

Yes, these are nothing but symptoms of nervous derangement, depending upon constitutional predisposition or the circumstances with which one is surrounded; as bright light will injure the sight, while the fumes of lead and mercury will destroy the sense of touch, and sharp sounds that of hearing.

GENUS 208. AMBLYOPIA.—Paropsis noctifuga.—Good. Day sight.

Character.—“Vision dull and confused in the dusk; but clear and powerful in broad daylight.”—Gallup.

The **Treatment** is the same in principle, varied to suit the circumstances.

GENUS 209. PRESBYOPIA.—Paropsis longinquæ.—G. Long sight.

Character.—“Vision only accurate when the object is far off.”

Causes.—The eyes are spread apart so as to carry the focus further off than natural.”—G.

Indications.—To tone the inner recti muscles and relax the outer.

Treatment.—Blacken the outer sides of the glasses of a pair of spectacles in a crescent-like form, until they crowd as it were the eyes inward, which may be known by their feeling a little uncomfortable, and by the patient being able to see nearer to the face. When this condition of the spectacles becomes perfectly easy, blacken them still further in, and so add, a very little at a time, until the focal point is near enough, and wear them so until the convergence becomes fully established. For only one eye, blacken only that lens.

The general health should be kept good, by the use of the bath, and of alterants and tonics, if necessary.

GENUS 210. MYOPIA.—Paropsis propinquæ.—G. Short sight.

Character.—“Vision only accurate when the object is near.”—G.

Causes.—The reverse of the preceding, and requires exactly the reverse treatment.

GENUS 211. DYSOPIA LATERALIS.—Paropsis lateralis. Skew sight.

Character.—“Vision only accurate when the object is placed obliquely.”

Causes.—Too much tension of the rectus of one eye, or too much relaxation of the opposite.”—G.

Treatment.—Take spectacles and paint, as before directed, the side which covers the contracted muscle, until it is but barely possible for the patient to see the object at two, three or four inches from the face, according to the degree of the derangement of the organ. Require him to wear these until they become easy; then paint out a little further so as to put the eye a little on the strain again, and repeat this as often as it becomes easy, until the objects are seen distinctly by both eyes at twelve to eighteen inches from the face.

Another very simple plan which has been used with entire success, is to put pieces of leather or wood into the frame of spectacles and burn small holes through them, one for the “straight eye” (if either be straight), just where it would suit a person whose eyes are set in the right direction. The other should be made so much out of the center (or inside if the eye turns outward), as to give it but a gentle strain in the right direction. The patient should read some time with these spectacles. When they become easy, exchange the wood or leather for others with the hole made a little nearer the true place of vision, so that the contracted muscle may be again put upon the strain. I have invented a spectacle with glasses to slide in or out, so regulated by a screw at each end, that the same hole may, at all times, fit all eyes; and can be so adjusted instantly, as to increase the strain by the most delicate degrees, until the muscles are entirely regulated.

Another method of curing this form of disease, is to magnetize perfectly the patient, and demagnetize the rigid muscles. Let him rest in this state several hours a day until the cure is complete. Many have been cured in this way. See “Keely’s Facts and Scientific Miracles.”

GENUS 212. PHANTASMA.—Paropsis illusoria.—G. False sight.

Character.—“Imaginary objects floating before the sight; or real objects appearing with imaginary qualities.”

Muscae volitantes.—Dark spots floating in the way of vision.”—C.

Causes.—Impurities of the humors, obstructing the rays of light that enter them, or so refracting them that they present objects under false colors.

Indications.—To purify the whole system and give it a healthy tone.

Treatment.—Courses, relaxing and stimulating alteratives, baths, exercise and proper diet. The eyes should not be much used for a while, but be relieved by the green hue of the country; or, where this is impracticable, by the use of light green spectacles or goggles. The diet should be light, nourishing, and moderate in quantity.

GENUS 213. CALIGO CORNEA.—*Paropsis caligo.*—G. Opaque cornea; web eye.

Character.—“Dimness or abolition of sight, from opacity of the cornea, or spots upon its surface.”—G.

Causes.—The same as for the preceding.

The *Treatment* should be the same with the addition of astringents to the “spots” on the outside of the eye. Tincture of bloodroot should be put on them with a feather, every hour in the day for several days. If this fail to take them off, they should be touched carefully with a stick of caustic potash until they are cut away, when the astringents may be renewed until the eye is clear. I have cured many cases in this way. The astringents collapse the little vessels that spread from the angle of the eye to the cornea, and they die and then are easily wiped off with a silk handkerchief. But the potash eats them off at once. If used in the stick it must not touch the sound part of the eye. If used in a weak solution, there is no danger.

GENUS 314. GLAUCOMA. *Paropsis glaucois.*—G.

Character.—“Dimness, or abolition of sight, from opacity of the humors.”—G.

This being caused by the obstruction of the circulation in the eye, it can be cured only by a general depurating treatment, with courses, baths and alterants.

GENUS 215. CATARACTA.—*Paropsis cataracta.* Cataract.

Character.—“Dimness, or abolition of sight from opacity of the crystalline lens.

Varieties.—1. *Lenticularis.*—The opacity existing in the lens itself and confined to it.

2. *Capsularis.*—The opacity confined to the capsule of the lens.

3. *Complicata.*—The opacity common to the lens and its capsule.”—G.

All the varieties require the same treatment, which must be like that of the preceding genus. Surgeons operate for this form of disease, but they so often make the matter worse, that I should hardly submit to it until I was totally blind. A number of persons of my acquaintance who could see well enough to take care of themselves though not to read, have been made totally blind by operations from the most celebrated surgeons. When they are totally blind from the disease, they will not be greatly injured, and they *may* be made to see by a skillful operation.

GENUS 216. CALIGO PUPILLÆ.—*Paropsis synizesis.*—G.

Character.—“Dimness, or abolition of sight from contraction or obliteration of the pupil.”—G.

This is a case of stricture of the iris, and the proper treatment is the bath, washing the eye with an infusion of lobelia, and the use of the lobelia pills and lozenges. If the stomach is disordered, a course occasionally, followed by tonic bitters.

GENUS 217. GUTTA SERENA.—*Paropsis amaurosis.*—G. Drop serene.

Character.—“Dimness, or abolition of sight, with unalterable pupil, usually black and dilated; but without any other apparent defect.

Some cases admit of a slight movement from the ganglionic nerves sent to the iris."—G.

This form of disease is sometimes the result of general debility or obstructions to the circulation, when a general depurating course will cure it. But it most commonly proceeds from paralysis of the optic nerve, when, in addition to the above course, the patient should be magnetized, if possible, if not, he should be isolated and charged with electricity, and that drawn from his eye by presenting your finger so near it that he can feel, as it were, a current of cool air, passing from his eye, but not so near as to produce a spark. This should be repeated twice or thrice a day, and from five to ten minutes each time, until the eye becomes clear and strong.

GENUS 218. ECTROPIUM.—Ophthalmia ectropium.—G. Eversion of the eyelids.

Character.—"Eversion of one or both the eye-lids; and consequent exposure of the red internal tunic.

Ectropium when the eyelids are turned upward."—G.

Treatment.—In the first of these cases, apply the extract of lobelia or the third preparation to the outside of the eyelids and an infusion of bloodroot or geranium maculatum to the inside of the lids. In the second case reverse these applications. In both cases cleanse the general system and tone it up.

Diseases of exaltation of the sense of hearing.

GENUS 219. AUDITUS ACRIOR.—Paracusis acris.—G. Acute hearing.

Character.—"Hearing painfully acute, and intolerant of the lowest sounds."—G.

This is an irritated or inflammatory condition of the auditory nerve, and the

Treatment consists in equalizing the nervous action. If of recent origin, and the general system is in a healthy state, neurological operations alone will correct it. If these fail after several days' trial, give a course, and use friction with stimulants to the surface, to produce counter-irritation. Repeat if necessary, the course, and the neurological operations.

GENUS 220. PARACUSIS IMAGINARIA.—Paracusis illusoria.—G. Imaginary sounds.

This is, as it were, the memory of actual sounds, or new combinations of different sounds. It is the continued action of nerves that have been irritated, after the first cause has ceased to operate. It requires the same treatment as the preceding.

Diminution of the sense of hearing.

GENUS 221. DYSECCEA.—Paracusis obtusa.—G. Hardness of hearing.

Character.—"Hearing dull and confused, and demanding a clear and modulated articulation. From organic defect; local debility; obstruction in the auditory passages, as mucus, wax, sordes, extrinsic bodies."—G.

When it proceeds from organic defect, the nature of that defect must be ascertained, and a surgical operation suited to it *may* relieve it. When from local debility, use magnetism as directed for Genus 217, pointing the finger to the ear instead of the eye. When from mucus, wax, or sordes (any kind of filthy matter), take a vapor-bath, and then work it out with a scoop or other small instrument. When from flies, bugs, etc., turn the ear up, and pour it full of sweet oil, and hold it in that position, until the insect comes to the top, which it certainly will after some time; generally in a few seconds.

GENUS 222. DYSECCIA ORGANICA.—Paracusis surditas.—G. Total deafness.

Character.—From organic defect, local palsy.

See last genus. Neurological operations. Electricity—surgical operation.

Exaltation of the sense of smell.

GENUS 223. OLFACTUS ACRIOR.—Parosmis acris.—G. Acute smell.

Character.—“Smell painfully acute, or sensible to odors not generally perceived.”—G.

This is the same as Genus 219, but differently located. Treat it in the same manner as there directed, that is, equalize the nervous action.

Diminution of the sense of smell.

GENUS 224. ANOSMIA.—Parosmis obtusa.—G. Loss of smell.

Character.—“Smell dull, or totally lost. From organic defect, or paralytic inability.”—G.

Here is the same disease, as in 217 and 221, only of a different organ. Treat it in the same manner, putting the finger to the nose instead of upon the eye or the ear.

Exaltation of the sense of taste.

GENUS 225. GUSTUS ACRIOR.—Parageusis acrida.—Acute disease.

Character.—“Taste painfully acute, or sensible to savors not generally perceived.”—G.

Here again is irritation or inflammation of a nerve, but it is the gustatory instead of the optic, the auditory or the olfactory, and it requires the same treatment, viz., equalize the nervous action. It will then cease to be excessive anywhere. See genera 206, 219, 221, 223.

Diminution of the sense of taste.

GENUS 226. AGEUSTIA.—Parageusis obtusa, et expers.—G. Taste dull, or extinguished.

Cause.—From mucus, aphthæ, palsy, etc.

When from mucus or aphthæ, cleanse it with a tooth brush and some weak composition tea, or a little bayberry or cayenne, and then use the bath and friction, also take stimulants for the mucus, and soothing articles, as slippery-elm, gum arabic, jujube paste, balsam of fir, etc., for the aphthæ. In cases of palsy, use magnetism, electricity, etc., as directed for the other senses; also the cleansing and the alterative course, good food, gentle exercise, and fresh air; and use all the precautions for preserving the general health, which I have so often given, that I need not here repeat them.

THIRD SERIES.

Affecting the encephalic mass, and perverting the intellectual functions.

Exaltation of intellect.

GENUS 227. VESANIA.—Ecphronia.—G. Insanity.

Character.—“Diseased perception, with little disturbance of the judgment,

occasionally shifting into diseased judgment, with little disturbance of the perception; diminished sensibility; irregular remissions."*

The *Causes* of the *derangements* of the intellect (which are very improperly divided into exaltation and depression, as they both exist in different organs at the same time), is an undue exercise of some organs at the expense of others. The man who is in the constant habit of exercising all his powers in due proportion, never becomes crazy, however severe his mental labor.

The man who, when condoled with by a neighbor for the loss of a farm, replied, "I have yet more farms than you have, so that I should rather pity you than you me," never ran crazy for the loss of property. The man who, when his leg was broken thanked God that it was not his neck, had within his mind, a balance wheel that ever preserved him from a mad-house. The doctors say that I am insane on the subject of medicine—but, famous as they are for error, they never committed a greater. I have studied so thoroughly, all systems of medicine, and seen so clearly the defects of all, that I shall never go crazy in the pursuit of any.

It is the driving of all the power of the mind upon a single organ or a group of organs, that inflames and debilitates. Hence, those who think *only* of their money, or *only* of their loss of friends, or *only* of their disappointed ambition, etc., are found among the insane.

And so in the cases of the senses, the derangement is made by the excessive irritation of some, or by obstruction to the action of others.

In the case before us, of the exaltation of intellect, the "diseased perception" is produced by the too intense and too long continued action of the perceptive organs. When these are overcome, the available vital force "shifts to the" organs of "judgment," when "the preception" after a little rest, recovers its power. "The judgment" or its organs being overcome, there are "irregular remissions," actions and reactions, until the whole cerebrum manifests a "diminished sensibility."

What then are the true indications? Doubtless to equalize the nervous action, and give temporary rest to the whole system. But how shall this be done? Answer.—In two ways; first, medically by a course and neurological operations; second, intellectually, by calling the attention from the organ or group affected, and fixing it on its antagonistic organs. The following genera will give us examples:

GENUS 228. MANIA.—Echpronia mania.—G. Madness.

Character.—“The discrepancy between the preception and the judgment, general; raving; entony; and impassioned emotion.

Varieties.—1. *Feroz*.—Furious and violent madness.

2. *Exultans*.—Gay and elevated madness.

3. *Despondens*.—Gloomy, despondent madness.

4. *Demens*.—Chaotic madness.”—G.

* “I have presumed to borrow very liberally from Dr. Good's order *Phrenica*, or diseases of the mind; indeed, pursuing him very literally, and only transposing to suit my own mode of exhibiting the characters of the several affections.

“In this series we are under the necessity of abandoning the tissual phenomena, and pursuing the mental; and this must be so, until anatomy and phrenology shall arrive at such precision, as to indicate the individual organs and functions, connected with the several mental processes.”—G.

Friend Gallup acted both very wisely and liberally in this; he well knew that anatomy had never traced the organs of the cerebral convulsions, and he could look to nothing but phrenology (which is nothing more nor less than the physiology of the brain), for the development of this secret. Well, phrenology, neurology, and animal magnetism (which are different terms for one and the same thing), are bringing it about.

Whatever be the organ or group affected, there will be periods of alternate raving (entony) and quietness (atony), of "impassioned emotion" and of apparent indifference to every thing, and for the plainest of all reasons, the brain, like the arm, gets tired of excessive action, and must have periods of rest. Carry a heavy weight on your arm until you are obliged to let it fall for want of strength to hold it, and it will be some time before you can lift it again.

In all these cases the indications of cure are the same; viz.: to equalize the nervous action.

In the genus above, the "raving and impassioned emotion" should be subdued by relaxing the whole system, with lobelia and the vapor-bath, continuing the former in broken doses until the object is effected. It is often and very well done by letting a jet of cold water fall upon the coronal fontanelle, the reason of which (as revealed by animal magnetism) is, that this is a point, the action of which, arrests all other mental action. A light blow with the fingers, will sometimes do it.

In the case of entony, that part of the brain should be aroused which is antagonistic to the part affected. Thus the first variety will be relieved as above. After the cessation of the paroxysm, that is, during the quiescent stage, you should watch the patient attentively, and observe on what subjects the violence next commences, and refer these actions to the proper organs. Then you will recognize their antagonists, which it should now be your object and effort to bring into action. Suppose combativeness and destructiveness be found diseased, you should call into action, by neurological operations, by electricity and moral suasion, benevolence, and the social affections.

In variety second, it will be proper to operate on the depressing powers under the lower jaw, on the cheeks, and at the pit of the stomach.

In variety third, you find the depressing organs affected and you must work on the elevating, as mirthfulness, hope, firmness, and direct electricity to the same organs.

In variety fourth, there is so much derangement that an inexperienced person finds it difficult to discover what organs are most and what organs are least affected. But, by careful observation for a time, you will discover the seat of the disease, when you should operate accordingly. In all cases the first thing is to equalize the nervous action; the next is to discover the organs affected, and, if in the acute stage, invite the action from them by counter-irritation; but, if in the chronic stage, rouse them to action. They who do not understand these principles, and who have not patience to put them into practice, are poorly qualified to manage the insane.

Depression.

GENUS 229. MELANCHOLIA.—Ecphronia melancholia.—G. Melancholy.

Character.—"The discrepancy between the perception and the judgment, limited to a single object or train of ideas, for the most part with taciturnity, love of solitude, gloomy fear or suspicion.

Varieties.—1. *Attonica*.—Fixed, mute, immovable melancholy.

2. *Errabunda*.—Roving, restless melancholy; having a constant desire to change the abode.

3. *Malevolens*.—Morose or mischievous melancholy; occasionally terminating in suicide, or the injury of others.

4. *Complacens*.—Self-complacent and affable melancholy; occasionally rejoicing in a visionary superiority of rank, station, or endowments."—G.

This genus should be treated by magnetizing, if you can, and rousing the action of hope, mirthfulness, ideality, and the social affections; and by the use of the vapor-bath, and even an emetic, if necessary. If you can not magnetize the patient, you should excite these organs by isolating him and charging him with electricity and drawing it out through them, as directed in Genus 217. You should also direct his attention, by conversation, to the subjects which call the above organs into action.

In the first variety, operate on the benevolence and suavity, also the elevating organs of hope, mirthfulness, love of approbation, etc., and give often the vapor-bath and the aromatic stimulants. Keep the bowels and surface open.

In the second variety, operate upon adhesiveness, concentrativeness, firmness, and the other social organs, and demagnetize the active organs, traveling, irritability, ideality, etc.

In the third variety, operate on benevolence, mirthfulness and hope, and demagnetize destructiveness and melancholy.

In the fourth variety, demagnetize self-esteem and the depressing organs of the face and chin, and operate on hope, humility, reverence, benevolence and love of approbation.

In all cases, learn, by careful observation, what organs are too active, and demagnetize them by brushing away their action; and magnetize their antagonists, by the touch and by presenting to the mind those subjects that call forth their action. Treat also, the case with medicine according to the symptoms.

Exaltation.

GENUS 230. MANIA A PATHEMATE.—Empathema. Good's second Gen. Mania from passion.

Character.—The judgment perverted or overpowered by the force of some predominant passion; the features of the countenance changed from their common character.

In this case, operate first on the coronal fontanelle for a while, then touch the organs of benevolence, humility, reverence, love of approbation, and other social affections.

GENUS 231. EMPATHEMA ENTONICUM.—G. Ungovernable passion.

Character.—The predominant passion accompanied with increased excitement, ardor and activity; eye quick and daring; countenance flushed and tumid.

Varieties.—1. *Iracudiae*.—Wrath.

2. *Superbiae*.—Pride.

3. *Gloria famis*.—Ambition.

4. *Letitiae*.—Joy. Transport.

5. *Philautiae*.—Self-love. Self-conceit.

6. *Zelotypiae*.—Jealousy.

This genus requires about the same treatment as the preceding.

The wrath may be subdued by exciting kindness, the pride and ambition by humility, the transport by depression, the self-love by the love of approbation, and the jealousy by confidence, hope, benevolence, etc.

Depression.

GENUS 232. EMPATHEMA ATONICUM.—G. Despondency.

Character.—The predominant passion accompanied with diminished ex-

excitement; anxiety, and love of solitude; eye fixed and pensive; countenance pale and furrowed.

Varieties.—1. *Desideris*.—Longing. Eager desire for an absent object, whether place or person; and hence equally including home-sickness, country-sickness, love-sickness.

2. *Auri famis*.—Avarice.

3. *Anxietudinis*.—Preying care.

4. *Mororis*.—Heartache. Severe grief.

5. *Desperationis*.—Despair.

In treatment of this genus, you must equalize, by a course, the circulation and the nervous action, and give the diffusive aromatic antispasmodics, then magnetize, if you can, and ask the patient which are the organs affected, and what kind of treatment and remedies are required. If he gives you satisfactory information, follow it strictly. If not, you should demagnetize the organs which seem most active, and magnetize or excite those that are quiescent. To diminish the excitement and anxiety, touch the falx at the coronal suture (the coronal fontanelle), and then, to correct the desire for solitude, touch the social organs, the love of approbation, benevolence, adhesiveness, traveling, mirthfulness, wit, humor, ideality, etc.

For the first variety, touch time present, locality, and benevolence, and call the attention to kind friends near the patient. Always remember to advert to the same subjects when your patient is awake, to which you would refer him by touching organs when magnetized. Touching self-esteem and disgust or hatred, will break up love-sickness.

For the second variety, touch benevolence, liberality and love of approbation.

For the third variety, ascertain what the care is about, demagnetize the organs that manifest it, and touch the opposite organs.

For the fourth and fifth varieties, do the same thing.

They will be relieved by touching the restraining organs around the crown of the head, and then setting in motion those that exhibit a cheerful and confident disposition; as mirthfulness, ideality, hope, firmness.

Exaltation.

GENUS 233. HALLUCINATIO.—*Alusia*.—Good. Illusion.

Character.—The judgment perverted, or overpowered by the force of imagination; the spirits permanently elevated or depressed; the feelings of the mind depicted in the countenance.

Treatment.—First give a course to equalize the circulation and nervous action, and follow with the aromatic antispasmodics; then arrest all operations, as before directed, when you will see what is the particular disease and the proper way to correct it. Attract the mind to the opposites of its erroneous determinations.

GENUS 234. ALUSIA ELATIO.—G. Mental extravagance.

Character.—Romantic ideas of real life; ardent and exalted fancy; pleasurable feelings; frequent pulse; great activity; eye keen, and lighted up; countenance confident and animated.

Varieties.—1. *Heroica*.—Chivalry. Romantic galantry.

2. *Facetosa*.—High spirits; sparkling, ebullient wit, incapable of restraining itself; that often sacrifices a friend at the shrine of a jest.

3. *Eccistica*.—False inspiration; visionary conceits.

4. *Fanatica*.—Fanaticism.

The proper treatment consists in equalizing the circulation and nervous action, and then treating the particular affections as they arise. The chivalry will all vanish at the touch of the organs of fear and humility, and the depressing organs of the face and chin.

The second variety should be broken up by equalizing, as above, the nervous action, and then magnetizing, and exciting the sober organs, as reverence, conscientiousness, humility and the depressing organs of the anterior and inferior regions.

The third variety proceeds from too high action of ideality and self-esteem. Demagnetize these and excite their opposites.

The fourth variety comes from the same, with a corresponding activity of the propelling powers of the brain, and will be corrected by the treatment prescribed for the first variety.

In all those cases in which the patient can not be fully magnetized, the practitioner or the attendant should operate as much as he can, and also, call into action the sluggish organs, by presenting the proper food to them, and removing, as far as possible, all causes of excitement from the organs affected.

Depression.

GENUS 235. ALUSIA HYPOCHONDRIASIS.—G. Low spirits. Hypo.

Character.—Gloomy ideas of real life; dejected spirits; anxiety; dyspepsia; languid pulse; indisposition to activity; eye oblique and scowling; countenance gloomy and sullen.

Varieties.—1. *Autalgica*.—Vapors. With visionary or exaggerated sense of pains, or disease; whimsical dislike of persons, places, or things; groundless apprehension of personal danger, or poverty.

2. *Pertusa*.—Weariness of life. Spleen. General listlessness, or disgust.

3. *Misanthropica*.—Misanthropy. With general malevolence, peevishness, and abhorrence of mankind.

Many of these are mere symptoms of bodily disease, which will vanish after a general treatment with courses, alterants and tonics, proper diet and exercise, and cheerful company. If any are left, after such a course, let them be treated according to their character.

There is nothing better calculated to continue the disease, and to aggravate its character and effects, than the very common practice of telling the patient he is not sick, he has only got the hypo (or hysterics, if a female), and of giving him neither medicine nor sympathy. To such patients "real life" should be made as agreeable as possible, their sufferings should be fully and honestly admitted, and then efforts should be made to exhibit to them the bright side of the picture. Kindness and liberality, should dispel their "anxiety," proper employment and habits of body, with temperance in eating and drinking, should cure the "dyspepsia" with which will vanish, the "languid pulse" indifference, frowning gloom and sullenness.

Varieties.—1. It is a well known law of the human economy, that the direction of the mind continually upon a part of the body, produces a correspondent action in that part, and often causes disease. Thus, when one thinks long and seriously of a little stitch in the side, he makes it more severe and permanent, so that it is not merely imaginary pain—it is *real*. And so, if one allows himself to think long and seriously, about the possibility of danger or poverty, he will suffer all the mental if not the physical evil which those conditions produce. As those pains, and this disease are *real*, the "whimsical dislike of persons and places generally," proceeds from the unkind treatment

of the "persons" in the "places," and all will vanish together after a treatment similar to that above prescribed. "Personal danger and poverty" are feared only by those who feel that all the rest of the world, are wicked and selfish. Let the conduct of others convince the patient that this is all illusory, and these apprehensions will vanish.

Varieties second and third, are but two advanced degrees of the same form of disease, and they require the same kind of treatment more affectionately and perseveringly administered. When I was sick of dyspepsia from 1821 to 1832, there was many an hour when I began to feel the different symptoms enumerated in all the varieties of this genus, but a prompt departure from the scenes, persons and places which gave rise to these feelings, and a visit to my kind sympathizing friends, of whom I had many in Richmond, Virginia, soon drove all the hypo, and misanthropy out of me, and I returned to my business much refreshed and encouraged. When I have seen persons laboring under various forms of neuralgia, and rather ridiculed and thrust aside, than pitied and comforted by those that surrounded them, I have often thought of the sentiment of Burns:

"Man's inhumanity to man
Makes countless thousands mourn."

I have pursued the opposite course; sympathized with and comforted them, and cured with my "very presence," cases that others failed to cure, with all their science and skill. When I told a certain lady that I thought she did not need any more of my visits, as I had told her all that she ought to do, she replied "come *every day* and *see* me,—your *very presence* does me more good than *all your medicines*."

I found this declaration true. I visited her, *talked with her*, and she recovered. Another whose case had baffled the skill of the most eminent physicians, said to me—"you *will* cure me—you humor me so much, and that is what I need." *She* was right; and here is a lesson for the young practitioner, which will do him more good, if he heeds it, than all his skill in nosology will, without it. His neglect of this, may be a better reason why he has not been as successful as I have been (see preface), than any inferiority to me in talent, science or skill. This patient, persevering forbearance and kindness, will work wonders for his success and reputation, and give him a chosen place in the "heart of hearts" of many of his patients.

GENUS 236. APHELXIA. Fourth Gen. Good. Revery.

Character.—Voluntary inactivity of the whole, or greater part of the external senses to the impressions of surrounding objects, during wakefulness.

This form of disease is caused by an obstructed condition of the whole nervous system of external relation (sense and motion), or by an irritation of the splanchnic or visceral system, to such an extent as to draw off the vitality from the nerves first mentioned.

The proper *Treatment* consists in cleansing the whole man of all obstructions, and restoring activity to every part. This is done by the use of the course, the still more frequent bath, the best alterants and the presentation of the subjects that most intensely interest the mind. If you do not wish your patients to be listless, present to them something worthy of their attention.

GENUS 237. APHELXIA SOCORS*.—G. Absence of mind.

* This differs from the preceding in the particular that the mind acts, but irregularly; while, in Genus 236, there seems to be no mental action at all.

Character.—Truant attention; wandering fancy; vacant, vacillating countenance.

This is not so much disease as the former. An active mind will wander to other scenes, things and persons, whenever the present are not suited to its taste, and many who are aware of this habit in themselves, have no very strong desire to correct it. Though circumstances may render the act excusable, yet the habit is by no means profitable to the subject. One who indulges it to any great extent, soon finds himself unable to fix his mind on things which he feels to be entirely worthy of his attention. He disregards things which he ought to notice, and forgets what he ought to remember, until it would almost seem as if he had no memory at all.

The cure is to be found rather in attention to the existence of the habit and in mental efforts to correct it, than in any medicine to the internal man.

GENUS 238. APHELXIA INTENTA.—G. Abstraction of mind.

Character.—The attention wound up, and riveted to a particular subject; and with sympathetic emotion of the muscles and features, connected with its general drift.

Varieties.—1. *A studio.*—From intense study.

2. *A pathemate.*—From overwhelming passion, as rapture, grief, despair," or disease.—G.

Here we have an illustration of the principle that too much physiological action of an organ will fatigue and prostrate it, while its antagonists, from inaction during the time, will become obstructed and thus, both series will lose the power of doing their part toward the recovery of a healthy equilibrium. Intense and long continued study, or passion (no matter what—anger, love, grief, envy, hatred), draws all the vital force to the irritated organs, and fatigues and prostrates them; their opposites are prostrated for want of action, and now the equilibrium must be restored by the use of medicine. Nor is it less clear, as I have often insisted (see propositions on food and medicine), that the constant use of stimulating food and medicine, will produce the same effect.

The remedy is to quit the study, quiet the passions, regulate the diet and regimen, equalize the nervous action and call into exercise the sluggish organs, as heretofore directed.

GENUS 239. ONEIRODYNIA.—Paroniria. Fifth genus of Good. Dreaming.

Character.—“The voluntary organs connected with the passing train of ideas, overpowered by the force of the imagination, during dreaming, and involuntarily excited to their natural or accustomed actions; while the other organs remain asleep.”—G.

In sound sleep, all the nerves of external relation (sensation and motion), are quiet. In dreaming, the nerves are in such an irritated state, that they act irregularly. Sometimes their motions are, as it were, continuations or echoes of their actions during the day, and thus one dreams of being engaged in his daily employment; or, they may be similar to those of the day, and hence are often deemed prophetic; or they may be magnetically or spiritually suggested and therefore really prophetic.

But the irritation of each nerve being of short duration, and some of the fibers of a group not being excited at all, the mental conceptions are both interrupted and strangely combined, so as to produce all the fantastic forms and strange notions so characteristic of dreaming. It is my opinion that a person sometimes sleeps so soundly as to get into a partially magnetic state, when the spirit looks out of the body into the future, and sees “things to come,”

or is informed of them by other spirits, and these are prophetic dreams of which there doubtless are some, though they are not all to be relied on.

In the *Treatment*, we should avoid telling dreams, for that is a sort of charge to the mind in the day, to keep a good look out at night, and of course a prevention of that calm repose which is necessary to sound sleep. On the same principle we should not overwork nor irregularly work the mind during the day. Nor should we make a practice of going to bed until we are somewhat sleepy, nor of lying in bed after we first awake. We should also preserve, at all times, an equanimity of mind, and not overwork the system at any time. If any symptoms of disease are manifested, treat them as directed under their proper heads.

GENUS 240. SOMNAMBULISMUS.—Paroniria ambulans.—G. Sleep walking.

Character.—“The muscles of locomotion excited into their accustomed action, by the force of imagination, during sleep.

This is the preceding genus carried out into action on the muscular organs of motion, and to be treated as directed for that.

GENUS 241. NYCTEGERIA.—Paroniria loquens.—G. Sleep talking.

Character.—“The muscles of speech excited into their accustomed action, by the force of the imagination, during dreaming.”

This extends to the muscles of speech. In proportion to the activity of these organs, is frequently the quiescence of the organs of sense, so it often happens that you find it as difficult to awaken a natural somnambulist and sleep-talker, as you do to awaken one that is magnetized by art. Whatever be the cause that produces it (on which, observers are not agreed, some attributing it to electricity, others to the imagination, etc.), it is quite certain that the state is the same, and that it may be excited by the same means in both natural and artificial somnambulists, and the same precautions and modes and means of cure that are recommended for dreaming, are requisite here. When the patient is in these conditions, the whole process should be arrested as before directed, the active organs should be magnetized, and the inactive, the sensitive organs, should be aroused. For this last purpose, touch the point or organ about half an inch on each side of the septum medium, or *falk cerebri*, median line, between conscientiousness and hope, speak sharply—“wake up”—and the patient will awake, when his other senses will speedily return. See neurology and animal magnetism.

GENUS 242. EXONEIROSIS. Paroniria salax.—G. Night pollution.

Character.—“The sexual organs excited into venereal action by the force of the imagination, during dreaming.”—G.

From what has preceded, it will be readily seen that the cause of this form of disease, is the venereal action of the mind during the wakeful hours, until the organs acquire a morbid sensibility that does not subside during the night. Here then, as in all the genera of this series, the first thing is to equalize the nervous action, and the next is to call into action the antagonists of the diseased organs—which, in this case are causality, comparison and conscientiousness. You may also aid much by exciting disgust against certain females and a high regard for others; and further, by various adjuvant means, such as constant physical exercise, the cold hip bath, and a very plain vegetable diet.

The use of causality is to see the physical and moral disadvantages arising from the indulgence of the passion, and of conscientiousness, is to suppress the rising sensation. Unless you can prevail on the patient to attend to these things, it is quite useless to give him medicine which can, at best do no more

than rid him of present effects. No dependence must be placed upon it to effect a radical cure. Many persons are continually *thinking* about the disease ; but this will not do. They must forget it at once and forever, and occupy the mind with something else—or it never can be cured. Trust no man who proposes to make a final cure with any specific drug.

GENUS 243. AMENTIA.—Moria. (Sixth Genus of Good.) Fatuity.

Character.—Defect or hebetude of the understanding.

This, if congenital, can not be obviated. But, if it arises from disease, as it may from many forms, as epilepsy, dyspepsia, etc., let it be treated according to the symptoms. Cure all the bodily disease, and then you will discover what part of the brain is most affected, when you should devote your attention to the regulation of the nervous action, as heretofore directed.

GENUS 244. MORIA IMBECILIS.—G. Imbecility.

Character.—“The defect or hebetude partial, or confined to particular faculties of the understanding.

Varieties.—1. *Stupiditus.*—Stupidity. Dullness and indocility of the apprehension ; torpidity and poverty of the imagination.

2. *Amnesia.*—Forgetfulness. Feebleness or failure of the memory.

3. *Credulitas.*—Credulity. Weakness and undue pliancy of the judgment, with a facility of being duped.

4. *Inconstantia.*—Fickleness. Instability and irresolution of the will.”—G.

When variety first is congenital, little can be done to relieve it. Constant efforts to call forth the attention, by presenting to it objects of interest, are the best means. When it arises from disease, the stomach is usually foul, and requires an emetic, which should always be followed by an enema and a vapor-bath, to restore the determination to the lower extremities and the surface. The alterative course, good diet and exercise, direction of the attention to proper objects, and a repetition of the course if necessary, will do all that can be done for the case.

For variety second, more attention must be given to the things to be remembered before they are permitted to pass from the mind for the first time. A strong impression must be made, and then it will not be easily effaced.

Variety third arises from a want of caution, and a strict examination of a subject in *all its bearings*, and all the circumstances which can, in any way affect it. The remedy must consist in arousing cautiousness, and the perceptive and reflective organs.

Variety fourth indicates a want of firmness and perseverance, and shows the necessity of arousing these organs and keeping them active. If the imbecility be the effect of disease, give a general depurating treatment, and continue as above.

GENUS 245. MORIA DEMENS.—G. Wistlessness. Irrationality.

Character.—“ Defect, or hebetude of all the faculties of the understanding.

Varieties.—1. *Stultitia.*—Folly. Shallow knowledge ; feeble judgment ; light frivolous fancy ; for the most part good natured ; sometimes with obstinacy.

2. *Lerema.*—Dotage. Impotence of body as well as of mind, from natural or premature old age.

3. *Anæa.*—Idiotism. General obliteration of the mental powers and affections ; paucity, or destitution of ideas ; obtuse sensibility ; vacant countenance, imperfect or broken articulation ; with occasional transient and unmeaning gusts of passion.”—G.

In congenital cases, we do not call these defects disease, nor is there much prospect that they will be much benefited. In cases where they are the effects of disease, treat the latter as if no such mental defect were present, and operate on the brain in such a manner as to call into action all the organs in due proportion. Knowledge can not be extensive where perception and reason are inattentive; the judgment must be weak when the perception and reasoning are inactive; the fancy must be frivolous, where the study is to gratify nothing else. The good nature arises from the incapacity to appreciate causes of offense: the obstinacy, from inability to see its folly—not disease, but want of power to be healthy!

In variety second, if from premature old age, the practice should be to cleanse and tone the system by courses and alterants, and the stimulus of proper food, air, exercise, etc.

If variety third is congenital (and this is the only proper meaning of the term *ancea*), it is presumed that the cause is a want of the proper organs or their functions, and we know not how to supply what nature has denied. If from disease, the remarks already made, and directions given above, are applicable here.

Before taking my leave of the nervous affections, I remark that they are the most important to which the human frame is liable. The nerves, being the primary organs through which the vital principle acts, necessarily affect, as they are affected, all the other organs of the system; and it follows, of course, that we should understand their arrangements and functions, and how to exalt or repress their action, to be successful in the treatment of any form of disease on any tissue. For, though we are inclined to suppose that operations on the nervous system, are merely imaginary, yet, it will be recollect that these operations are capable of producing the most powerful effects on other tissues. Some persons will vomit freely from only the smell of an emetic, and others from the bare thought of it. Many will faint at the sight of a free flow of blood, and yet others from merely hearing the news of it. When these organs (the nerves), are excited, they move others, and thus the vascular, the glandular and the membranous are often propelled to action to such a degree as to rid themselves of all morbid matter. This is certainly the case when the action is kept up pretty steadily for a considerable time. It is all important, therefore that the structure and offices of all parts of the nervous system should be thoroughly understood by even a general practitioner of medicine; and this instruction is to be obtained only from phrenomagnetism, or neurology.

The general habit may be affected by the reflex actions,

10. *As emanating from the irritation of local affections seated in the osseous texture.*

No. 36.—Order X.

Diathesis ossea depravata.

“The osseous texture being composed of vital solids, although studded with crystallizations of saline carbonates and phosphates, is liable to take on preternatural, or morbid action. The diseases of the bones, like those of other textures, may be acute or chronic. The hard hollow bones have been broken into fragments in six days’ inflammation, with ulceration, reverberating severely on the general system, with high stenotic diathesis. At other times they slowly decay with little reflex action; merely a reflected irritation. In the pathological state, the bones and teeth often assume a high degree of

sensitiveness. Diseases of the bones often accompany constitutional idiosyncrasies, arising from scrofulous, syphilitic, scorbutic, or cancerous contaminations."—G.

FIRST SERIES.

GENUS 246. OSTITIS.—"Inflammation in the outer or inner membrane of hollow bones.

Character.—"Pain severe and deep seated; inflammation involving the surrounding soft parts; synochoid fever for the most part; soon followed by suppuration, breaking the bone with exulceration, when internal."—G.

The treatment of inflammation of the bones is the same as of inflammation in any other tissue; viz., relax the whole system, cleanse it and equalize the circulation; then invite the action to the surface by the use of the bath, and stimulants to the surface and poultices to the part affected. If this is done early, it will prevent ulceration; if late, it will bring it to a favorable termination. The green leaves of herbs, and the succulent of trees, just bruised and put on, have a fine effect in reducing inflammation. They are also good if scalded and applied. I have found peach leaves excellent for this purpose; but have generally directed tansy, wormwood, mullein leaves, burdock, cabbage, purslane, and other thick mucous leaves. I continue the poultice as long as the ulcer discharges pus, giving, at the same time the bath, and depurating medicines internally. It is necessary to be patient and persevering, for, though the bones sometimes decay rapidly, they always heal slowly.

GENUS 247. OSTEO-SARCOMA.—Sideratio ossis. Spina ventosa.

Character.—"Slow, internal caries of bones, involving the integuments; elevating the skin in the form of a conical tumor; discharge ichorous, corroding and fetid."—G.

The treatment of this form of disease differs not very materially from that of the preceding. In either, if there is proud flesh, you must cut it away by the use of caustic potash, burnt alum, or sorrel salve. It should be well and often cleansed with the syringe, using a little number six, or chloride of lime water, in the fluid injected, constantly keeping it sweet.

GENUS 248. EXOSTOSIS—Emphyema exostosis.—G. Node.

Character.—"Chronic, inelastic tumor; immovable, hard, and bony to the touch.

Varieties.—1. *Ostea.*—Seated on the bone.

2. *Periosteum.*—From ossification of the periosteum; protuberant.

3. *Pendula.*—Detached bony substances in joints."—G.

Sometimes all these varieties will disappear in the use of a good thorough treatment, but in general, it may be advisable to remove them with the knife. The first variety may be very easily clipped from the bone, and the third may be removed by carefully arresting it outside of the joint, and so compressing the part as to prevent the escape of the synovial fluid.

I have seen an account of several operations for the removal of these bony formations from the joints, without any injury to the patient. It was found that the synovia though quite wasted, would soon be renewed. I have seen a number of these cases, and believe they are, nearly all, the effects of the use of that "Samson of the *materia medica*," that "anti-inflammatory, anti-febrile alterant," which "cures we know, but how it cures we know not." (Harrison.) They who wish "to save their bones," must avoid the medical use of mercury in all its forms.

GENUS 249. CARIES.—*Ulcus cariosum.*—G. Caries ulcer.

Character.—“An ulcer of the soft parts, connected with a death of the external lamella of a bone; dark color; fetid smell; exfoliation; crumbling.

Varieties.—1. *Arthrocase.*—When the defect extends to the medulla.

2. *Necrosis.*—When there is an entire death of the bone.”—G.

The proper treatment here is the same as in Genera 246–7. The improvement of the general health, with poultices to the ulcerated parts, is all that can be attempted in the way of medicine. When the diseased part is covered by healthy flesh, which refuses to yield and give vent to the matter, it may be advisable to lay it open with the knife, after which it may be poulticed as before.

GENUS 250. OSSIFICATIO.—*Ostherxia infasciens.*—G. Ossification.

Character.—“Ossific matter concreting in masses in various soft parts.

Implexa.—Ossific matter deposited in membranes, as in the aorta and pleura; also, as in tendons, ligaments, and sometimes uniformly over the periosteum.”—G.

The ossifications may be found in various parts of the system. I have seen them in the valves and crown of the heart, in the lungs, liver, placenta, and on the costo-sternal cartilages. The cause is an imperfect circulation, and bad articles of diet. The only means of cure, where they are beyond the reach of a safe operation, as in Genus 248, consist in the promotion of all the healthy secretions, by baths, alterants and proper diet, and exercise.

GENUS 251. RHACHITIS.—*Cyrtosis rhachia.*—G. Rickets.

Character.—“Deformity of the osseous system; head bulky, with prominent forehead; spine crooked; ribs depressed, with protuberances at the sternal junction; sternum prominent and deformed; epiphysis of bones enlarged, presenting a soft cellular structure internally, which may readily be cut; deficiency of ossific matter; periosteum thickened; skin pale, and flesh flabby; premature development of mind.”—G.

Causes.—Deficient formation, or generative energy in the parents.

The correction of this form of natural defect is not to be expected. It may be somewhat improved by that course of treatment which is calculated to promote the general health, and especially by a well selected diet and course of exercise. Great deformities may be partially corrected by mechanical compresses.

GENUS 252. CRETINISMUS.—*Cyrtosis cretinismus.*—G. Cretinism.

Character.—“The skeleton short and deformed; head large; goitre; enlarged abdomen; universal cachexy; skin wrinkled; vacant countenance, and stupidity of mind; hereditary.”—G.

This is but a slight variation from the last, proceeds from the same causes, and should be treated in the same manner.

GENUS 253. MOLLITIES OSSIIUM.—*Parostia flexilis.*—G. Softness of the bones.

Character.—“The substance of the bones soft and yielding, liable to bend with small force and little pain; deficiency in the deposit of the phosphate of lime.”—G.

Here again, nothing can be done but to improve the general health. Various attempts have been made to supply the system with what is supposed to be wanting, and perhaps some good may have been done in some instances; as in giving alkalies to correct acids, and acids to neutralize alkalies, etc.

But some of these administrations have been rather singular, as bitters to increase the bile when it is supposed there is already too much. On this principle it might be supposed that the drinking of lime water would be useful in this series of disease. But I am not aware that any *specific* treatment has ever had the honor of curing these forms of disease; though the improvement of the general health has had a very good effect in some cases.

GENUS 254. FRAGILITAS OSSUM.—*Parostia fragilis.*—G. Brittleness of bones.

Character.—“The entire osseous system of a friable nature, and liable to be fractured by slight force, and with little pain; deficiency of component gelatine.”—G.

Here, as above, the general health must be improved, as it is only by promoting absorption and secretion that we can make any salutary changes in the bones. The treatment must be mild and steady, and continued, if found to answer the purpose in the slightest degree—which it will do if only physiological.

SECOND SERIES.

GENUS 255. LITHIASIS.—*Lithia.*—G. Gravelly habit.

Character.—“Superabundant secretion and deposition of calcareous neutrals in various receptacles, forming crystallizations, which are voided with difficulty, or retained; or depositions in membranes, as in arthritic concretions.

Varieties.—1. *Renalis.*—In the kidney. Severe pain in the region of the kidneys, extending toward the testicle and thigh of the side affected; vomiting, pyretic habit.

2. *Vescicalis.*—Stone in the bladder. Pain on walking or riding; urgency to urinate often, and suddenly interrupted; rigidity in the penis, and pain in the glans. When in the urethra, pain exquisite, and inability to urinate.

3. *Chololitha.*—Gall-stones. Obtuse pain in the right hypocondrium; sallow, or yellow complexion; pale feces; urine of a yellow cast. When passing the ducts to the duodenum, exquisite pain at the epigastrium, fever and vomiting.

4. *Pulmonalis.*—Calcareous deposits in the membranes of the bronchial vesicles, occasionally loosened by suppuration, and discharged by coughing.

5. *Enterolitha.*—Lithic concretions or crystallizations in the stomach and intestinal canal.”—G.

Causes.—The causes of these forms of disease, are the same as those of the bony deposits, viz.: a deficiency of healthy absorption, secretion and excretion. Among the most common causes of the first variety, are the various kinds of means used to compress the waist. These check the circulation of fresh blood to dissolve and remove all impurities, close the mouths of the absorbents and prevent the natural cleansing of the parts—while the effete matter, by decomposition, deposits its baser portions and forms the solid masses. It is also caused by articles of diet which produce irritation and spasm in the stomach, with which the liver sympathizes; and by poisons for medicines, which depress the vitality of the parts, and thus stop depuration. It may also be produced by a mere culpable inactivity; for nothing is more certain than that a reasonable amount of physical exercise is indispensable to bodily health. The animal body is not made to stand or sit still, like a plant;

and, of course, is not endowed with an amount of vitality sufficient to sustain all its physiological operations while in a quiescent state.

The *Indications* here, then, are, manifestly, first, to remove all the causes above hinted at; secondly, to relax all the obstructed organs and stimulate them to healthy action, and thirdly, to tone the whole system and maintain a reasonable amount of healthy action.

The *Treatment* will consist in "loosening the bands of wickedness," and giving the antispasmodic medicines and the vapor-bath. The former should consist of articles combining the emollient with a slightly acrid principle, as sarsaparilla, spikenard, comfrey, asparagus, dandelion, bittersweet, queen of the meadow, honey and the balsams; or these may be united by art, as slippery-elm and horse radish, cresses, mallows and ginger, melon seeds, or flax-seed, and golden seal. A pill of lobelia seeds, nervine, bitter or blackroot, and slippery-elm, will be excellent to give, one in the morning, one at noon and two at bed time, all assisted by frequent and thorough vapor-baths, warm applications to the loins, and an occasional emetic if the stomach require it. This should be followed by tonics and stimulants, and proper diet and exercise.

The second variety is caused, when not connected with variety first, by the habitual retention of the urine in the bladder, after nature has demanded its removal. The person who will, at all times, encourage the natural evacuations, and obey all calls for the removal as soon as nature makes them, will never be troubled with gravel nor habitual costiveness. The discharge of urine should be encouraged night and day. When the calculi are formed and they impede the discharge, the patient should lie on his back, and the obstructions will roll back from the internal orifice of the urethra, and then he can succeed, in that position. Some of the articles above-named, should be given to promote a free secretion of urine and warm injections should be administered three times a day, consisting of lobelia, bayberry; and ginger or cayenne will aid in dissolving and cleansing. Fresh urine and even warm water has a tendency to dissolve the gravel, as any one may see by collecting some that has been discharged, and putting it into these fluids. When the liquids can not be introduced without, a gum catheter should be smeared with slippery-elm and carefully introduced, and the fluids forced through that.

Varieties third, fourth, and fifth, are caused by the same as variety first, and must be treated in the same manner, viz.: relieve the general system of all oppression, relax and cleanse it, and tone it up with good food, gentle exercise, air, etc.

I have treated a number of very bad cases of these forms of disease, and have cured them all. I have several large calculi, taken from different persons by the aid of lobelia and the vapor-bath. These means combined, produce a wonderful degree of relaxation; and should be used whenever needed.

The general susceptibility may be sympathetically influenced,

11. *As the local irritations may be of a peculiar kind, affecting different tissues.*

No. 37.—Order XI.—*Diathesis specialis.*

GENUS 256. SCORBUTUS.—Porphyra.—G. Scurvy. Purpura.

"Although this habit of disease affects the mucous texture very considerably, yet it does not seem to have a primary location in it. The sanguineous system appears to be essentially affected, as is manifested from the great changes taking place in the crisis of the blood. It was conceived most proper

to have it stand in the specific diathesis for consideration. Both solids and fluids seem simultaneously to be affected."—Gallup. See Section xv, 5.

Character.—"Gradual approach of debility of body, and torpidity of mind; bloated countenance; anxiety; difficult respiration; frequent and small pulse; pains in the limbs; petechiae, or vibices on the surface; occasionally cutaneous exudations of blood; often spongy, bleeding gums, and intestinal discharge of blood; fetid breath.

Varieties.—1. *Simplex.*—Numerous small flea bite spots; lurid countenance.

2. *Urticans.*—Tingling nettle-sting wheals, with flea bite spots; migratory.

3. *Hæmorrhagica.*—Land scurvy. Different sized and various shaped patches.

4. *Nautica.*—Sea scurvy. Spots of various colors; teeth loose."—G.

Causes.—The scurvy is attributed to the eating of salt and tainted meat, to damp or impure air, to idleness and dissipation, and to whatever is calculated to debilitate the system.

Indications.—The above symptoms and causes clearly indicate the necessity of cleansing the general system of all impurities, of equalizing the circulation and nervous action, of stimulating and warming the whole man, particularly the surface, of hardening the gums and restoring the action to the surface.

The *Treatment* will consist of several full courses of medicine, and the use of alterants; also astringents to the gums, and very frequent baths, and friction with stimulants. The diet should be exclusive vegetable, unless it sour, when a little fresh meat may be used twice or thrice. The vegetables of the cruciferous tribe, as mustard, horseradish, radishes, cresses, cabbages and turnips, are recommended as both food and medicine in this form of disease. They are good only because they are stimulant, so are cayenne and ginger. Pure air and water, and gentle exercise, are indispensable. All grease and gravies, fat meats, tea, coffee and tobacco, should be avoided. No butter, unless perfectly sweet, and but little of that, should be eaten. Unbolted wheat bread, corn bread, mush and milk, good potatoes, tomatoes, the sub-acid fruits, and, when the digestion is much impaired, slippery-elm, arrow-root, starch, etc., will be found good. The gums should be rubbed gently, with a soft brush, and composition, astringent tea, and an alterant, consisting of sumach bark, prickly ash, golden seal, elder bark and ginger, or any other combination of relaxing, stimulating and astringent articles, with an occasional lobelia pill, will be found very useful. To prevent mortification, charcoal, gum myrrh, cayenne, slippery-elm and vinegar should be used as often as necessary. Perseverance for some months, in this course, treating according to the several indications, will effect a cure.

GENUS 257. HELMINTHIA.—G. Entozoa. Vermiparous habit.

Character.—"A disposition to produce worms, or nourish the larvæ of insects in the alimentary canal, or extension of the mucous membrane. Producing various and anomalous symptoms, as emaciation, voracious appetite, or disgust of food; gnawing, pungent pains, pale countenance, fetid breath, convulsions, irritation of the nostrils, and febrile excitations.

Varieties.—1. *Lumbricus teres*—*Ascaris lumbricoides.*—G. Long round-worm. Head incurvated; mouth triangular; yellowish, transparent color, with a faint line down the side; gregarious and vivacious; from twelve to fifteen inches long; commonly inhabiting the ileum, or the stomach.

2. *Trichocephalus.*—Long thread-worm; about two inches long; head obtuse, and furnished with a retractile proboscis; tail longer than its body,

terminating in a hair-like point ; residing in groups, and inhabiting the cecum of sickly children.

3. *Tenia solium*.—Long tape-worm. Long articulations, with pores, by which it attaches itself to the intestines, one on each joint, generally alternate ; head with a terminal mouth, surrounded with two rows of holders ; a little below, on the flattened surface, two tubercular orifices, or suckers ; tail terminated by a semicircular joint, without any aperture ; from thirty to forty feet long, or even sixty ; residing at the upper part of the intestines, and feeding on the chylous materials ; removed with difficulty.

4. *Tenia lata*.—Broad tape-worm. Articulations short and broad ; body broader in the middle, and tapering toward both ends ; head smaller than the last ; inhabiting the upper part of the intestines ; usually in groups of three or four ; from three to fifteen feet long.

5. *Fasciola*.—Fluke. Gourd-worm. Body flattish, with an aperture at the head, and generally another beneath ; size and appearance having a resemblance to a gourd seed, and broader. More commonly infesting quadrupeds, and also other animals ; sometimes in the liver ; one kind white, another brown.

6. *Ascaris*.—*Ascaris vermicularis*.—G. Maw-worm. Thread worm. Inhabiting the podex [anus], but sometimes wandering ; in groups ; about half an inch long ; head divided into three vesicles, an aperture in each, which receives nourishment ; tail terminating in a point. Exciting local irritation ; itching.

7. *Scarabæi*.—Larvæ of the beetle. But little known.

8. *Oestri*.—Bots or larvæ of the gad fly. Round ; pale green ; found in the human faeces, but more frequently those of the horse ; taken into the stomach.

9. *Gordii*.—Hair-worms, or seta equina. Found in stagnant waters ; from four to six inches long, twisted into knots ; pale brown color. Produced in Lapland especially, occasioning violent colics, attended with profuse ptyalism, and bloody urine ; called *Colica Lapponica*.

10. *Hirudo*.—The leech. Different species swallowed along with the muddy and stagnant water they inhabit.

11. *Musca cibaria*.—Larvæ of the pantry fly. Producing disturbance in the stomach. In danger of being taken in various media, especially in decayed cheese."—G.

Dr. Thacher says, "There are no infallible symptoms by which the presence of worms in the bowels can be readily distinguished, for any intestinal irritation or morbid affection of the bowels will be attended with similar appearances.

"Those most commonly found in the human body, are the small white worm, called *ascarides*, which occupy the rectum ; the long round worm named *teres* and the *tænia* or tape worm.

"The ascarides produce such a degree of itching about the anus that sleep is interrupted and often prevented. The child complains of pain in the belly, looks pale, picks its nose, and has a variable appetite. The stools contain a preternatural quantity of mucus or slimy matter in which are frequently discovered the worms like small white threads.

"The symptoms denoting the presence of the *teres* or long round worm, which exists in every part of the alimentary canal, are, a capricious appetite, fetid breath, pains in the stomach, and sometimes vomiting ; grinding the teeth during sleep, picking of the nose, paleness round the mouth, red spots in the cheeks, swelling of the upper lip, livid circle round the eyes, hardness

and fullness round the belly, a short dry cough, disturbed sleep, emaciation of the body, an irregular fever, drowsiness and unequal pulse. In some instances, convulsions, epilepsy and partial palsy of the lower extremities occur. If convulsions, attended with a small pulse and hiccough are present, it may be almost certain that worms abound in the alimentary canal. Small substances in the excrements, resembling melon or cucumber seeds, are symptoms of the tape worm.

"The *tænia* or tape worm resides in the intestines of adult persons, and is so tenacious of its habitations, that it has been found extremely difficult to dislodge it." Pieces of it are discharged, and the balance lives and maintains its position.

Causes.—The causes of varieties one, two, three, four and six, are still involved in impenetrable mystery. Some make them the effect and some the cause of general debility. Some suppose they are bred by the mucus in the alimentary canal, and others, that they always exist in the bodies of all men, and are necessary to health, and that it is some accidental disturbance of their quiet that renders them troublesome. I do not know what is their origin, but I have examined the internal canal of so many persons, that I am fully convinced that no such vermin can be found in perfectly healthy persons, and that when they commence their existence, they multiply very rapidly and frequently produce death, unless some course of medical practice destroys them.

The *Indications* of treatment, are, to paralyze or to kill, and to remove them.

The *Treatment* has been various. Men of the allopathic school use calomel, arsenic, tobacco, and other deadly poisons; also, mechanical irritants, as tin, cowage, steel filings, etc., and vegetable irritants, as spirit of turpentine. Those who would paralyze and remove worms, use nauseants, and active physic, as laxative bitters, castor oil, etc. Though I do not doubt that some articles are sufficiently poisonous for the destruction of worms and yet nearly or quite harmless to the human body, I never use poisons. I have thoroughly examined all the articles recommended as specifics for worms, and find them to consist of three classes, namely : poisons, as calomel, arsenic, tobacco and colocynth ; mechanical irritants, as burnt corn cob, tin and steel filings dolichos pruriens ; and nauseants, as wormseed, ipecac, and the various nauseating bitters, all which are anthelmintic.

Of the poisons I consider spirit of turpentine and spigelia incapable, in any reasonable quantity, of destroying the patient, while they are quite efficient against the worms. Of the nauseants, lobelia pills, bitterroot, golden seal, balmiony, butternut, blackroot, male fern, melia azederach (pride of china), Jeffersonia dyphilla,—any innocent but powerfully relaxing bitters, or nauseating oily substance, as wormseed, castor oil ; and of the irritants, burnt corn cob, dolichos, and tin filings ; and, lastly, common salt, especially if mingled with spirit of turpentine and loaf sugar, or with the expressed juice of white cedar or arbor vitæ, and followed, in an hour, by some active cathartic, will generally rid the patient of these troublesome vermin. A teaspoonful of the juice to half as much salt for a grown person.

They hate salt and nauseating bitters, and will retreat to the lower parts of the body on their administration. I therefore administer, every hour for a day or two, in small doses, some of the most nauseating bitters I can find, and then give salt to render the worms thirsty, and sugar and spirits of turpentine for their food, and then a brisk cathartic, of blackroot, butternut, or castor oil and cayenne, and aid it, just as it threatens to act, with an injection

of strong tea of cayenne and slippery-elm. The former stupefies them, and the latter gives them a quick and an easy passage from the body. I have sometimes removed them by giving constantly, for a day, thick slippery-elm mucus; and they are often removed by bitterroot or butternut, or pride of china alone. All the medicines should be well sweetened with loaf sugar, and given on an empty stomach in small doses frequently and perseveringly repeated.

Astringent articles are useful in collecting the phlegm, and, probably, in so closing the surface of their bodies as to confine the poison they eat, and render it more destructive. Stimulants also annoy them and drive them down; hence bayberry and composition are very useful in their treatment. They sometimes get into the stomach, and then a dose of lobelia, followed by strong composition tea, will generally eject them. "There is an erroneous idea prevalent among some persons, that, to give an emetic in worm complaints, may occasion suffocation and death; but it should be considered that, when worms are actually in the stomach, if they can be thrown off by vomiting, immediate relief will be obtained, and an emetic will not invite them there, *for they loathe all bitter and nauseous substances.* It is very doubtful whether these vermin have ever united in the stomach in such a formidable body as to obstruct the passage and occasion suffocation."—Thatcher.

When medicines are given which do not act as cathartics, they should be followed, after a day or two (or six or eight hours if the case is urgent), with a good bitter cathartic, as blackroot or butternut and a little aloes, which is very good in the expulsion of ascarides.

Numbers three and four are more tenacious of their location than the others, yet a constant use, for some time, of butternut physic, removed one from Dr. Samuel Thomson, after many efforts by other means had failed.

It has lately been discovered that an emulsion of the common pumpkin seed, is a sovereign remedy for tape worms. Bruise fine half an ounce of the peeled seeds, mix in a pint of water and take it all in two doses, within three hours, and follow it, in three more, with a brisk cathartic.

In using the corn cob, first bruise it to small pieces in a mortar, then burn it like coffee and bruise it very fine. Now sift it in a gentle current of air, through a coarse sieve, and there will fall sharp hard scales which are partial envelopes of the seed while on the cob. A teaspoonful of this in molasses to an adult, or a quarter of this quantity, to a child three years old, three times a day for two days, and then followed by a cathartic, will pretty certainly destroy the teres. I have seen them come away in short pieces, cut up by the sharp calyxes. The furze from the dolichos is put into molasses, and taken in the same way. So also the tin filings, but in much smaller quantities. The root of spigelia, of comptonia, and the bark or leaves of the melia, are made into a strong tea, sweetened and taken, a wineglassful for a child, a teaspoonful to an infant, and a half pint to an adult, three times a day before meals (which should be very sparingly allowed during the use of any medicine), and then worked off with bitter cathartics. Spirits of turpentine should be used, sweetened and creamed, in doses of ten drops to a teaspoonful, according to the age and strength of the patient. The juice of the arbor vitae, from a teaspoonful to a wineglassful. It may be expressed from the leaves, made into a sirup and kept in vials. Salt and the juice of the arbor vitae are death to numbers five and eight, according to Whitlaw.

As patients are often supposed to have worms when they have not, physicians should be careful not to use severe means on that supposition, nor to condemn the proper remedies when they do not seem to answer their expect-

ations. It will be enough if a persevering use of the course of medicines, the bath, bitter alterants, and stimulants, proper diet and exercise, improve the general health and remove the particular symptoms, though no worms appear, which is often the case.

GENUS 258. INCENDIUM SPONTANEUM. Catacausis ebriosa.—G. Spontaneous combustion.

Character.—“Combustion of the human system; spontaneously arising, or easily excited; occurring in females for the most part, who are advanced in life, and who have made an immoderate use of alcoholic liquors; occurring in the night, and in solitude. The body has been found with a flickering flame upon it, but oftener with a smothered heat, producing a fetid smoke; the flame increased by water; the fabric becomes reduced to a black, oily, and sooty mass.”—G.

I do not know that this horrible catastrophe occurs in any but persons who have kept their systems for a long time saturated with ardent spirits. The blood drawn from a vein of a habitual drunkard, during his sprees, has so much alcohol on its surface as to take fire; and the serous fluid in the ventricles of the brain, has also exhibited the same phenomenon. It is said, that the breath also will be ignited by the blaze of a candle, and that, when once in a flame, no method is known of arresting its progress until the whole is consumed. If these be real facts, it well becomes those who use ardent spirits, to quit the destructive practice before they are consumed by these horrible internal fires. Indeed, it is not necessary to ignite the body of the lovers of alcohol, to produce their consumption. A combustion not less fatal is going on continually while they use the article, and will most certainly destroy them at no distant period, when, as “no drunkard can enter the kingdom of heaven,” their case will be truly deplorable.

I have now passed through the consideration of all the various forms of disease comprised in Dr. Gallup’s Nosography, and yet there remain unnoticed, sundry affections which the physician is often called to relieve, and which of course, I feel it my duty to notice in this work. The first I shall mention is called

GENUS 259. MILK SICKNESS OR TREMBLES.

Having but little personal experience in the treatment of this form of disease, I shall give that of two or three of our friends in whose judgment and veracity I have all confidence.

Cause.—This seems to be under the ban of doubt, though it is generally believed to be the rhus toxicodendron, called poison sumach, poison vine, poison oak, etc. For proof of this, see Dr. Drake, B. M. Recorder, vol. ix, page 313, and Thomas S. Hinde, vol. vii, page 101. Some suppose it to be a species of eupatorium; others arsenic. It is still uncertain, though no doubt some specific poison. It is eaten by cattle, horses, sheep and goats. The males usually die. The females that give milk escape, and the animals that drink it or eat butter or cheese made from it, have the disease; dogs, hogs, buzzards, etc., that eat the flesh of these animals, die of it. The fumes of the candles made of the tallow of the cattle that have died of it, frequently communicate the disease. Persons who skin the animals often take it. Hence, such animals are fit only to be buried. It prevails at all seasons and on high as well as low grounds, wherever the toxicodendron grows.—Towell, Hinde, as above. “Generally worst in a dry fall.”—Towell. “On damp, shady ground.”—Drake.

The *Symptoms* are: “Sometimes languor and lassitude for some days pre-

vious to the attack; at other times, it comes on suddenly with severe vomiting, thirst, and burning at the pit of the stomach, and obstinate costiveness, etc. It is an aggravated form of disease, and unless promptly treated, carries off the patient in a few days. The greatest difficulty seems to be, to relieve the spasmodic affection of the stomach, so that medicine can be retained upon it."—Dr. L. Houston, Houston, Ohio, B. M. Recorder, vol. ix, p. 309.

"Relaxation of the [voluntary] muscular power, lassitude and exhaustion, with trembling from slight exertion, burning at the stomach, accompanied with obstinate costiveness, immoderate thirst and vomiting, a flushing of the face with little or no fever; in all cases, the breath has a peculiar disagreeable smell, which can readily be distinguished from that of any other poison."—Dr. L. Towell, Carmi, Illinois, (now Tennessee), B. M. Recorder, vol. viii, page 374.

"The glands are affected; it destroys the tone and coats of the stomach and bowels, affects all the digestive powers, and it is almost next to an impossibility in an advanced stage of the disease, to procure a passage from the bowels."—Houston.

Treatment.—"My course has always been to give weak lobelia tea to take off the tension of the stomach, and injections [of the same and cayenne?] to relieve the bowels, then apply the steam to relax the surface; and, when this is properly done, give lobelia so as to produce thorough vomiting that the stomach may be relieved of all irritating matter; and, as soon as the stomach is settled, give physic enough to operate freely on the bowels, and the operation will be quicker and more effectual, if the patient be kept in a gentle perspiration.

"After the physic is done operating, if the stomach does not feel clear of weight or soreness, give another emetic, with steaming and toning the surface; as one course will do more good after physic has operated well, than two courses would before. Generally, when lobelia operates thoroughly a dark substance like coffee grounds, is thrown from the stomach, which gives immediate relief; and, by giving laxative bitters sufficient to keep the bowels open, the patient is soon well; but, if the practice be vacillating and not energetic, or when the doctors give poisons instead of medicines and the patient recovers, his disease becomes dyspepsia or chronic liver complaint, and he lingers for years a miserable being, with trembling of the limbs, palpitation of the heart, burning at the pit of the stomach, vertigo, etc."—Houston.

The doctor does not say what he gave for physic, but, if the bath be freely used with small doses of lobelia tea, every half hour, for half a day, almost any physic will operate. It may be blackroot and cayenne, or castor oil and cayenne, or butternut and cayenne, in peppermint or spearmint tea. The appearance of the coffee grounds in this case, and in congestion of the stomach in yellow and sometimes in typhus fever, is produced by forcing blood into the stomach, where it coagulates, and combines with the food and produces the "coffee grounds."

Dr. Towell says: "This dreadful disease fills the minds of the people with horror and dismay wherever its desolating influence is felt. It has set at defiance the skill of the mineral faculty. I have known their sanguine hopes to be blasted and their remedies to fail, even in flattering cases. Need we wonder when we see them dealing out their calomel, tartar emetic, flour of sulphur, croton oil, etc., all of which, together with the disease tend to the rapid extinction of a great proportion of the vitality of the system?"

"Animals that have died have been examined, and the contents of the manifold [stomach?] appear almost as dry as tinder, the food in the other

organs appears natural, except the hardened feces in the last portion of the intestines." "Cattle that have had the disease, have generally been relieved of it, by simply feeding them for a few days on as much Indian corn as they will eat.

Treatment.—"Make a compound of capsicum one part, cypripedium, two parts, apocynum, four parts; half a teaspoonful of this compound to half a pint of hot water. After steeping, pour off and sweeten, and give in broken doses. [How many, doctor? We should think the whole a broken dose.] This will relieve that nauseous, disagreeable taste which forms a prominent feature in the characteristics of this disease, and is the cause of such abundant discharges of saliva. At the same time hardened feces removed from the bowels by an enema, composed of the same articles, with the addition of a hydrastis canadensis. When this is done, sponge the system well with weak ley, warm, and give a few doses of Thomsou's vegetable composition, with a little number six in it, and follow with an emetic of lobelia inflata, in a tea of myrica cerifera. When this has operated thoroughly, give a sirup or pills of the juglans cinerea until an action of the bowels is obtained; aid the operation by a repetition of the enema. Make a ley of strong hickory or other ashes by putting them in hot water, and cork it up in a bottle while hot. (This prevents the ley from having that acrid, biting taste, common to ley made in the open air.) It is to be diluted with water to a pleasant sweetness, and used as a common drink.

"I continue the potation of the first compound, adding hydrastis canadensis for a few days, which will operate as a laxative and restorative; or I use the common spice bitters with an increased quantity of apocynum. If the first course should not prove effectual, repeat every second or third day, until a cure is effected, using restoratives between the courses. This course of treatment will cure twenty-nine out of thirty cases of milk sickness. Under my practice, it has relieved a far greater proportion than this.

"I should have said that the enemas with a small portion of bayberry and a liberal portion of lobelia, should be continued a day or two after the bowels are relieved of their load. It is not advisable to give any thing [but lobelia] to stop the vomiting until the stomach is relieved of its irritating and poisonous matter. When this is done, excite action [by enemas] from the stomach to the bowels and your work is more than half done. I have relieved several cases principally with enemas; the stomach being so irritable as to receive but few remedies in small portions; therefore too great reliance can not be placed on this important plan of administering medicine."—Dr. Towell.

I directed the treatment of a case near Columbus, after others had tried it and thought the patient would die. I put him on the cot-bath and gave lobelia and the teas of the aromatic herbs, as sage, catnip, etc., with a little cayenne, until he had vomited thoroughly, the stomach was settled and he perspired freely. Then gave a dose of butternut physic, and after two hours used injections until the physic operated freely, continuing the vapor until after the physic had ceased to act. I then followed with tonics and he was quite well in two days. See Recorder, vol. iii, page 162; vol. vii, page 101; vol. viii, page 374; vol. ix, pages 309 and 313; vol. xii, page 213.

GENUS 260. BURNS.

Character.—The philosophy of burns seems to be but imperfectly understood. It is generally supposed that the fire not only penetrates a part, but remains in it for a long time. That it penetrates a part to some extent, is certain; but it is equally certain that it soon departs from the flesh again.

What, then, is the cause of the smarting? I answer, the caloric produces a powerful excitement of the nerves of the part, which continues, like the ordinary inflammatory process, long after the first cause is removed. This excitement produces, in the tissues, an astringent effect which gives great pain to the nerves of the part. And this astringency and pain are the most severe, in those parts that are crisped by dry heat, as a hot iron, a coal, etc. If cold water be immediately applied, and continued for an hour or more, it absorbs the caloric and relaxes the constriction, and, of course, removes the irritation and pain. The injury is now as easily repaired, as if it had been done by a knife.

Treatment.—Few forms of disease are more easily cured than burns, if properly managed, or more troublesome if neglected, or maltreated. There are many ways and means of treating them rightly, but that which is the most convenient, is, first, to put the part into cold water, until it ceases to smart when raised out of it; or, if the part is where it can not be immersed, let it be covered with cloths and these kept constantly wet with cold water. When it ceases to smart, though exposed to the air, dress it with the elder salve or sweet oil or fresh butter, or slippery-elm, until it is well, using the water agnus and a poultice if it inflames.

It is a common custom to put on cotton wet with spirits; but the cotton is very apt to stick, and I hope no one will have the spirits in the house.

Another excellent method is to slack some quick lime in a covered vessel, and when cool pour it off and mix with it an equal measure of sweet oil. This will make a cream-like paste, with which the burn may be treated from first to last. If the burn is deep, add a teaspoonful of balsam of fir to a gill of the paste, and poultice with slippery-elm and charcoal.

If fever arise, treat it as you would under any other circumstances. If proud flesh get into it, apply a little burnt alum or bloodroot, or, if very obstinate the caustic potash as directed for cancer, and when it is removed use the salve again.

GENUS 261. FREEZING, OR THE ABSTRACTION OF CALORIC.

As maltreatment in this case is followed by lasting injury, it is well to give proper directions for its management in the first instance.

Whenever it is discovered that a part is frozen, it should be immersed in ice water, or water at the *freezing point*. This must be carefully observed; for, if the water be too warm, the caloric from it will penetrate the frozen part so rapidly as to destroy the vitality, when the organic texture will be broken. Let the water, then, be at the temperature of thirty-two degrees, or that of melting snow or ice, and then that which surrounds the frozen part, will congeal in scales, as the caloric leaves it and enters the flesh. When the caloric in the part and the surrounding water is equalized (or, as it is commonly expressed, when the frost is out), the scales of ice also will melt, and the whole quantity of water will become warm. The part should now be removed from the water and dressed with some kind of soft oil, and protected from friction until it becomes well and able to endure exposure. If tender, it may be hardened by bathing it with a tea of raspberry leaves or other astringents. If frozen parts are neglected at first, the flesh generally mortifies and falls off, and sometimes proud flesh (*fungus*) gets into them as into burns, when they must be treated in the same manner. If the heels or toes are but slightly frozen and are thawed without being immersed in cold water, they produce what are called chilblains, and must be treated as directed above, first with cold to remove inflammation, then with oils to heal, and

astringents to harden. These may be united in a salve. Keep the parts free from friction and the general health good, in these as in all other cases of local affection.

GENUS 262. OLD SORES.

I have already treated of cancer, syphilis, carbuncle, furunculus, abcess, etc. See index. But there are constantly presented to the physician and often to the family, various affections under the very general name (perhaps as appropriate as any), of "old sores." They are usually of two kinds, acute and chronic; or, angry and inflamed, or apparently dead and mortified. The former usually discharge an offensive matter, as in sorofula, salt rheum; the latter are sometimes dry and harsh, and sometimes gangrenous and sloughing.

When an "old sore" is highly inflamed, I wash it clean and poultice it with emollient and soothing articles, as slippery-elm, linn bark, flaxseed, mallows, mush or bread and milk, etc., and at the same time, use freely the bath, alterants, emetics if necessary, and all other means calculated to cleanse the system, and prevent disease. If now the inflammation subsides, and the sore seems disposed to heal, I apply a healing salve, say the elder or the common salve, made of mutton suet, rosin, butter, and balsam of fir. If its edges are still angry, hard and unyielding, I treat them as directed for cancers or fistula, which see; and then use again the poultices and salves, and purifying alterants.

GENUS 263. FISTULA.

This is a generic term which signifies a pipe or tube. In medicine, it means a tube of callous flesh, through which, usually, flows an ichorous humor that comes either from the inner extremity of the tube, or is secreted by its coats. "It is narrower than a sinus, generally continues further, has its internal surface, and its orifice usually callous; is seated in the cellular tissue, and generally proceeds from abscesses."—Parr.

"A sinuous ulcer, or sore which has one opening or more running into it; and which, by long continuance or the use of drying as astringent applications is liable to become hard and callous in its internal surface, and, in such a state, from its supposed resemblance to a pipe, is termed a fistula."—Bell.

When its orifice is on the surface, water either flows or may be easily pressed out, and, if near the surface, and parallel to it, a ridge may be felt in the direction; if it extends directly into the body, its extremity will feel like the end of a pencil depressed in the middle. Its depth and direction may be ascertained by the introduction of a probe, which, if carefully done, gives little or no pain, on account of the insensibility of the part. After the use of the probe, it will be well to inject a quantity of warm water, by which it will be more nearly determined, whether there are more pipes, or whether those discovered are larger than the probe had determined. Different names have been given to this affection corresponding with the parts of the system in which it is located: as fistula lachrymalis, fistula in ano, etc., but wherever the disease is, its character is essentially the same.

Causes.—Costiveness, and rupture of the intestines by the presence of hard feces, sedentary habits, neglect of the calls of nature, bad treatment of ulcers, injuries; poisonous physic, etc. "The most frequent cause of sinuses in ulcers and abscesses, is the want of vent, or a sufficient opening for the discharge, which easily insinuates itself into the yielding substance of the cellular tissue, and proceeds gradually until it finds an opening, either extern-

ally or into some of the neighboring cavities. An improper application of bandages on ulcers, is often the cause of sinus."—Bell.

Treatment.—Various methods of cure have been proposed and adopted, but that most in vogue with the regular faculty, is a surgical operation. This consists in laying open the tube to the surface, and by some, in cutting out entirely, the callous parts; and hence, it being considered only a surgical case, it is seldom found in books on the practice of medicine. But the surgeons "do not consider it a disease which is very easy to treat; it very often baffles the skill of the best of them." "No operation will avail without attention to the state of distant parts; you may divide the sinus, but, if the fistula depends on the disordered state of remote parts, it will never heal without attention to the constitution of the patient." So, it seems at last, that the case is rather medical than surgical.

My plan of treatment is similar to that for ill-conditioned ulcers and cancers. In both cases, it is indispensable to attend to the general health—to remove all obstructions to a free vitality, the due performance of all the natural functions, and then to remove the pipe or pipes, with means sufficiently powerful to effect it. In mild cases, or when there is little hardness, a pretty strong solution of caustic potash or salts of hard wood ashes, will generally destroy the semi-vital or callous parts without affecting the sound; when the sides will incline to heal, and must be allowed to do so. But, when the solution does not answer, put into the tube the solid substance, or burn it out with the stick of purified caustic, which is prepared in France for that purpose. Be careful to remove all the pipe, or pipes if there be more than one, before you suffer the healing process to commence, and even then you must not allow the external orifice to close until the ulcer is healed at the bottom.

The most common locality of fistula, is between the rectum and the ischiadic or sacral bone. This is sometimes nearly horizontal, with one end directed to the anus; but, more commonly, it is outside of the sphincter and parallel with the rectum; and, in this case, its upper extremity usually opens into the rectum. Indeed, it commonly commences with an ulcer here (see causes), which eats through the rectum, into the cellular tissues. This yields readily to the pressure of the feces, when hard, and thus fecal matter commences its downward course outside of the rectum! a callous substance is found on the sides of this passage, and the process continues until it comes out, as I said, between the sphincter and the bones. When the downward tendency is impeded, the lateral tissue gives way, and thus are formed pipes in different directions from the main trunk, which must all be removed before the healing process is attempted.

Surgeons cut the intermediate sphincter, and thus connect, throughout, the fistula and the rectum. But this only makes bad worse. The passage heals, if it heals at all, without a sphincter, and the result is involuntary discharges forever after. I know several such cases, and consider the remedy much worse than the disease. This operation is justifiable only when the fistulo-rectal opening is below the sphincter. It is useless to cut, unless you remove all the pipes, and, if you do that with the knife, you are in danger of doing irretrievable mischief by hemorrhage, and the loss of the sphincter. The caustic, follows the course of the semivital parts, and leaves the sound, both to prevent hemorrhage, and to heal the lesion, and is, therefore, altogether preferable.

The same remarks hold good, when the tube is found connected with the urethra. In this case, it is called fistula in perineo.

It is sometimes caused by cold and ulceration in the lachrymal duct, or tube

leading from the inner angle of the eye into the nose, to conduct off the tears. In this case, surgeons sometimes form a passage and insert a silver tube. But I recommend thorough courses of medicine, putting the head for a long time in the bath, and snuffing the fumes of vinegar or lobelia, or something that will excite severe sneezing, and keeping the face warm and moist until the obstructions dissolve, and are removed; after which, in all cases, heal as you would any other ulcer, with salves, etc.

It may, and sometimes does, occur in other parts of the body, but, wherever it is, it should be treated in the same manner.

GENUS 264. HERNIA.

This term is given to "a portion of the contents of some cavity forced through the integuments of the containing parts, usually confined to the abdominal contents, forced through the integuments of the abdominal muscles, or those openings designed for the passage of nerves, blood vessels, etc. It is still covered with the skin and other integuments."—G. From the situation of these tumors, their contents, or both, they usually obtain their respective denominations; but they occasionally take their name from attending circumstances.

1. Those from the situation are the umbilical, femoral, ventral, labial or scrotal.

2. Those from the contents, are the enterocele, epiplocele, entero-epiplocele, pneumatocele, etc.

3. Those from attending circumstances, are the incarcerated or strangulated hernia, etc.

True hernias are from the abdominal viscera, beginning from the above and descending downward to the groin or scrotum; while the false begin from below, and ascend upward; as the hernia humoralis, hydrocele, hematocoele, and saccocoele.

The inguinal is the most frequent hernia, and, next to this, is the femoral. The umbilical seldom occurs, and the protrusion of any other viscus than the intestines, is still more rare.

"When the intestines fall from the cavity of the abdomen, the peritoneum is generally carried with them; rarely it is ruptured, and they pass through it. The intestine usually falls through the abdominal ring in men, and along the round ligament, or femoral arteries in women. It is rarely found through the fibers of the abdominal muscles; one case is recorded in which the colon was pushed through the fibers of the diaphragm; in others, the intestines have passed by the sides of the esophagus, by the aorta into the thorax."

"The sac which contains the intestines is usually the peritoneum, and the contents are most commonly the omentum and the ileum; less frequently in succession, the colon, the cæcum, and the jejunum."

When the intestine is so far protuded as to stop the descent of its contents, it is called strangulated hernia. In this case inflammation soon comes on, and the membrane is thickened, so that it will not return. When the intestine, on lying down, spontaneously returns into the abdomen, or, at least, with a very gentle pressure, it is called *reducible*. Physicians call it irreducible where they find themselves unable to reduce it. This irritability proceeds sometimes from inflammation and thickening, sometimes from the hardening of the feces it contains, or some swelling at the ring; sometimes from bands formed across the back, and sometimes from adhesions of the membranes to the sac.

When the omentum only comes down, the *symptoms* are only those of

inflammation and mortification. In this case it seldom happens that the feces are retained, yet extension of the inflammation produces all the symptoms of complete hernia, though less violent. When the intestine, as well as the omentum is strangulated, a violent pain is felt in the tumor, and a stricture round the body, about the navel, with frequent vomiting, soon of fecal matter. All evacuation downward is checked; the pulse is quick, the tumor painful, the abdomen tense, and the tumor of a darker color; and death follows.

"The obstacle to the production of the prolapsed contents is therefore the increased bulk which they have acquired from inflammation in consequence of stricture, by which they are incapable of returning through the same passage at which they escaped."—G.

I have condensed the above from Parr, in order that the nature and symptoms of this severe affliction may be well known. The treatment recommended in the regular books, I can not approve.

Causes.—The general "cause, is whatever contracts the capacity of the abdomen, and violently forces the intestine against the aperture" mentioned; as "violent coughing, crying, laughing, costiveness, dysury, pregnancy, suddenly lifting heavy weights, mounting a wild horse, etc. In weak persons, the relaxation of the orifice, and the mere weight of the intestines have done it. It is hence, most common in warm climates, and among the poorly clad and fed, and otherwise enfeebled, in crowded cities."

Treatment.—Whatever be the situation of the hernia, place the body in such a position that the part will be the highest point on it. As it is usually the abdominal ring, I place the patient on his back with the sacrum on some object twelve or eighteen inches higher than the back, with the feet extended, or the knees drawn upward toward the body. In this position, I give lobelia to relax the whole system, and, if the part is inflamed, poultice or foment it for some time, until the soreness is abated. I then take hold of the tumor, and compress it gently in my hand, extending it a little in length, rather than pressing it upon the orifice, or, if the patient be a judicious person, I request him to do it himself. While in this situation, I give him lobelia enough to vomit him freely, and enemas of lobelia, cayenne, and slippery-elm, to clear the bowels as much as possible, then continue the lobelia in broken doses, with nervines, and thus keep him under its influence, until the hernia is reduced, if it is possible to reduce it in this way. When he gets tired of the above position it may be changed as much as it can be, without throwing the pressure upon the passage of the intestine. If the tumor can not be reduced in this way, in some twelve hours, (it is frequently reduced in a few minutes), I put the patient into the horizontal bath, elevate the pelvis, and direct the vapor as much as possible upon the tumor.

The advantage of placing the locality of the hernia the highest, consists in this, that the bowels all fall in the contrary direction, and produce just that kind and degree of retraction that are necessary to reduce the tumor. *After the vomiting and dejections* are over, it is well to give a little opening medicine to ascertain whether the hernia is strangulated and the passage stopped. If a passage is thus effected, there is less danger from the continuance of the hernia. If the tumor is not sore and the passage is free, there is no occasion for alarm; let the practice be steady and persevering, and it will turn out right in some way. If the passage through the alvine canal be closed, the vomiting and hiccough continue, and the part continue inflamed and sore for several days, in spite of all you can do according to the above directions, and there be signs of mortification, the knife must be used. You must carefully cut the integuments to the tumor near the orifice, and, if the intestine be mortified,

you may make a small opening into it, and let out its contents; if not, you may enlarge the passage a little (the patient being in the condition before described), and reduce it.

As the passage has been enlarged, you must bring its parts together by stitches and straps, and keep the patient in the same position until the wound is healed, else the organ may descend again, destroy the slight connection and prevent it from ever firmly uniting.

These suggestions, for the relief of one form of hernia, will be sufficient to direct the ingenious practitioner in the treatment of all forms.

I have seen one case of hernia, in which the testis of one side, which had never descended into the scrotum, was forced through the abdominal ring; but the cremaster, etc., which had not grown long enough to allow it to pass over the pubic bones, held it fast to the ring, when it swelled considerably, and produced also an enlargement of the investing and superincumbent tissue, so that the tumor was quite large and painful. Very judicious efforts were made for twenty-four hours, without effect, to reduce it, when I was called. I placed the patient as above directed, and made some efforts to reduce it, but no improvement. I then put him in the bath as above directed, and applied the vapor for about twelve hours, making one fruitless effort to reduce it while there. He was then taken out, and placed on the bed again, and the poultices were re-applied. All this time, the fact that there was a free passage through the bowels, and that there was very little pain or soreness in the tumor, convinced me that there was no danger in the case, and that patience with a prudent practice, waiting on the operations of nature, was the best plan.

But not so, thought a good "neighbor." He anticipated a fatal result if the tumor should not be speedily reduced. So he brought in "a skillful surgeon who devoted the most of his time to treating such diseases," and he agreed entirely with the neighbor. I was "a respectable man, but ignorant of the case;" he was sure it was very dangerous. Though expressly told that a free passage had been effected, and that the other signs of strangulation were absent, he would not believe until he had tried a dose of physic. Meanwhile, he used all diligence to return the tumor, saying that if it could not be done, an operation must be performed immediately. He left at eleven at night, and the next morning brought in a couple of his brethren for consultation. They wanted to bleed, to give antimony, etc., but no poison could be gotten down the neck of the true blue Reformer. He did consent to take an enema of tobacco, and of that, of course, he was "sick enough."

But it turned out that, in spite of all their wisdom, and all their prophesies of evil, the tumor remained and the man did not die, but recovered and went about his business. I have never heard that it went entirely back, and I should prefer, were I the patient, that it would pass down lower, rather than rise up higher.

I knew another case of real intestinal hernia; the doctors declared he could not live without an operation; they operated, his bowels rushed out, they could not return them, and—he died! So much for the wisdom of the schools! against the advantages of paying some attention to the indications of nature.

GENUS 265. PENDULOUS UVULA.

This is another medical case which is very often turned over to the cruel tender mercies of the surgeon. It consists in the relaxation of the uvula to

such a degree that it will fall upon the base of the tongue, and produce irritation, cough and impediment to deglutition and speech.

It is the effect either of general debility or of long continued irritation of the mouth and throat, and of heating the neck with stocks, etc. What is commonly called "ministers' throat ail" proceeds from the same causes with heating during public speaking, and then suddenly cooling, often by continuing conversation in cold, damp air, after an evening's speaking in a hot room.

The proper remedy in both cases, is a general treatment with courses, baths and enemas, until the cold and canker are removed; then astringent gargles, followed by such demulcents as slippery-elm and gum arabic, the patient wearing around the neck a strip of flannel dipped in a strong decoction of cayenne and vinegar. Use every means to tone and invigorate the general system. And remember that, when a natural part is cut off, there is still more danger of inflammation than before. The astringents are such as geranium root, sumach bark, bayberry, etc.

There may, however, be some cases in which the disease will not readily yield to any medical treatment, and surgeons clip off a small portion of the pendulous uvula. This is done generally with long sharp scissors; but, lately an ingenious instrument has been contrived for the purpose. From a quarter to a half an inch is generally excised. If it should bleed much, strong astringents should be applied either in powders or washes, or both until the hemorrhage subsides.

Though I have given the general character and treatment of nearly all the various forms of disease to which the human body is subject, I can not forbear to remind the reader that, if he were to make out a list of all the symptoms, and then strike out terms until there were no repetition of any one, the remainder would be little more than a description of a few complicated forms of disease, acute and chronic.

TOXICOLOGY.

POISONING.

Character.—Direct reduction of the vitality of the system.

Causes.—Whatever is in its nature, opposed to the physiological offices of the various organs of the body.

Action.—Poisons act in several ways: some produce swelling of the system, and thus impede respiration and circulation, as rhus, arsenic. Others stop the physiological operations without destroying the integrity of the organs, as prussic acid and opium. Others destroy the integrity of the organs, as sulphuric acid, nitrate of silver, corrosive sublimate, etc. Others destroy, first the functions, and, after a time, the integrity, as calomel.

Most mineral poisons are slow in their operation, but marked in character, and certain in their injurious influence, and their shortening of life. The vegetable poisons usually act more speedily, and, if the patient escape immediate death, produce less injury to the constitution. But to both these there are exceptions: zinc, arsenic, antimony, corrosive sublimate, nitrate of silver, the alkalies and acids act more speedily; while opium, nux vomica, digitalis, ergot, and others produce lasting mischief.

Treatment.—The general treatment for poisons should consist in regular courses of medicines, with great care to keep the bowels and surface open, and to promote a good alterative action through the whole system. When the body swells, baths and poultices are indispensable, and lobelia should be given constantly in broken doses, and should be aided by more permanent relaxants, as bitterroot, golden seal, boneset, sage, catnip, and the various nervines. When the article of poison is known, the specific antidote or neutralizer should be administered; as albumen for arsenic or corrosive sublimate, the alkalies for the acids, etc.

I shall here give from Coley's Toxicology, Dunglison, etc., the prominent symptoms produced by the most common poisons, with the special antidotes that may be used in each case, in conjunction with the above general treatment.

Case 1.—Antimony.

The form of this poison most likely to affect the human frame, is tartrate of antimony or tartar emetic.

Symptoms.—“Nausea and severe sickness, hiccough, acute pain, and sense of heat in the stomach, with a small, frequent and hard pulse. The respiration is oppressed, cramps and syncope take place, the system becomes insensible to the strongest stimuli, and vertigo and convulsions announce the approach of death.”

Effects.—“Antimony acts upon the heart, producing syncope; the brain, producing inflammation and effusion, and the alvine canal, producing inflation” and gangrene. It inflates the stomach, intestines and brain with gas.

Treatment as above. The doctors attempt to neutralize it with alum, infusions of cinchona (peruvian bark), alum and rhubarb, etc.

Case 2.—Arsenic.

Arsenious acid, and Fowler's solution. Taste metallic, acid and corrosive, with a slight sweetness. Odor none.

Symptoms.—Constant salivary discharge; difficulty of swallowing, nausea, and vomiting of a brown matter mixed with blood; great thirst and pain, and heat in the epigastrium—diarrhea, faintness, green or black, and very offensive discharges, livid spots on the abdomen, feet and hands paralyzed, delirium, convulsions, death.

Effects.—Death comes so quickly, as to prevent any extensive lesion. The lungs are gorged with blood, the vessels of the meninges thickened and turgid, the ventricles filled with effused fluid, the mucous membranes vascular and sometimes gangrenous.

Treatment as above. The doctors recommend chalk, sugar and lime water, as neutralizers, and mucilaginous drinks to protect the mucous membrane.

Case 3.—Copper.

Sulphate of copper, blue vitriol, blue stone. "Taste, harsh, acrid and astringent. Odor none."

Symptoms.—Tongue dry and parched, great nausea, continued discharge of saliva, vomiting and coppery eructations, thirst, colic and tenesmus, black and bloody discharges from the bowels; cramps, prostration and death.

Effects.—Inflammation and mortification of the stomach and bowels, frequently perforations of their coats.

Treatment as above. Sweetened coffee is recommended as a neutralizer. Ammoniated copper and acetate of copper or verdigris are also used. The effects are the same.

Case 4.—Lead.

Acetate or sugar of lead, and carbonate of lead. Taste sweet and astringent. Odor none. Given as medicine, and imbibed in making or using white lead. See painters' colic.

Symptoms.—Violent colic and general pains in the abdomen, vomiting, laborious respiration, paralysis of the extremities, obstinate costiveness from the first, prostration, delirium, insensibility, death.

Effects.—Destruction of nervous power, and suffocation from paralysis, inflammation, and extravasation of the mucous membrane, the lungs and mesenteric glands.

Treatment as above. Antidote, magnesia.

Case 5.—Mercury.

Corrosive sublimate, bichloride of mercury. Taste acrid and astringent. Odor none.

Symptoms.—Burning and metallic taste, great oppression in the throat, difficulty of swallowing, pain in the stomach and bowels, frequent and violent vomiting, quick and hard pulse, diarrhea, copious salivation, great debility and difficulty of respiration, tremors, convulsions, death.

Effects.—Inflammation and mortification.

Treatment as above. Antidotes, albumen and gluten in the form of whites of eggs, starch, wheat flour, all in warm water. Mercury is also used in the form of blue mass (blue pills), mercurial ointment (unguentum), calomel, and a great variety of compounds, in which it does not prove so speedily fatal, though it is scarcely less pernicious in the end. Though multitudes escape

its destructive ravages, yet any considerable number of persons who have taken it will furnish abundant examples of rotten teeth, and gums, and sometimes whole cheeks and jaws; the destruction of the head of the femur and shortening as well as incavation of limbs, etc., and finally, after some years of miserable existence, the most loathsome death of which we can conceive. Crt., No. 141.

Though some of our friends talk largely about clearing the mercury out of the system, I have not found it so easy to eradicate. I gave to one patient some three hundred courses of medicine in the space of five years, with proper intermediate treatment, relieved her eight or nine times of profuse salivation, until she got tired of this living death of mercury in the system, and refused further treatment, when, after all my labor, I was obliged to witness her death by a most loathsome mercurial salivation! All I had done was to prevent the mercury from eating her up alive, until it had so prostrated the vital energies as to stop the wheels of motion.

Let those who would avoid these terrible results, touch not this deadly drug, in any of its fashionable forms; for, though *some* may think they draw a prize from it, the general use of it by the community, is like the folly of a company in purchasing all the tickets in a lottery for the purpose of distributing the prizes among their members. See B. M. Recorder, vol. x, pages 13—15, and my review of Dr. Harrison's *Materia Medica*, in vol. xiii. Also, *Criticisms*, pages 32—48.

Case 6.—Silver.

"Nitrate of silver or lunar caustic. Taste intensely bitter and metallic.

Symptoms.—Taste corrosive and acid, with a sense of fullness and choking; vomiting, diarrhea, syncope, cramp, vomiting of bloody mucus; tenesmus, convulsions, death.

Effects.—Inflammation and gangrene of the stomach and bowels, diffusion through the system and purple color of the skin, at length almost black."

Treatment as above. Antidote, copious draughts of salt and water.

This poison is also very tenacious of its hold on the system. It destroys the tone of the stomach and bowels, produces dyspepsia, and all the horrors of hypochondria, and renders life a continual burden. Physicians all confess that it produces inflammation and gangrene, and yet they prescribe it to subdue gastritis! They know it gives the horrors to the nervous system, and yet they prescribe it for epilepsy! The same remarks will apply to all the metallic poisons above named, with zinc and others yet to be considered, and yet these are the articles on which the "scientific physician" chiefly relies for the cure of the very diseases which they make.

Case 7.—Zinc.

Sulphate of zinc, or white vitriol. Taste styptic and metallic.

Symptoms.—A sour taste in the mouth, extreme vomiting, and severe pains in the stomach and bowels; diarrhea, laborious respiration, features sunk, and the extremities cold and trembling. Vomiting generally relieves the patient, if the dose is not too large.

Effects.—Patches of inflammation in the lining membrane of the stomach and intestines; black extravasated blood on their muscular coats, and general vascularity through the whole alimentary canal.

Treatment, as above. Antidotes, milk, starch, the albumen of eggs, and mucus of slippery-elm.

Case 8.—Barytes, Muriate of.

Taste bitter and styptic. Odor none.

Symptoms.—Excessive vomiting and diarrhea, with great pain in the stomach and bowels, vertigo, stupor, paralysis of the extremities, convulsions and death.

Effects.—Inflames the stomach and brain; and fills the ventricles of the latter with fluid, and renders its vessels turgid. Nervous system paralyzed.

Treatment, as above. Antidotes, sulphate of soda and magnesia. A thorough course of medicine.

Case 9.—Lime, unslacked.

Taste acid and alkaline.

Symptoms.—Great nausea and vomiting, heat of the mouth and throat, and constriction of the esophagus. Excruciating pains in the stomach and bowels.

Effects.—Inflammation and gangrene.

Treatment.—Give freely of the vegetable acids, as vinegar, sour cider, lemon juice, etc., until the pain ceases, then follow with mucilaginous drinks and a full course of medicine.

Case 10.—Potash, Nitrate of, Saltpeter.

Taste sharp and bitter. Odor none.

Symptoms.—Immediate nausea and vomiting, and pain in the stomach and bowels. Diarrhea with discharge of blood, impeded respiration, syncope, paralysis of the extremities, convulsions and death.

Effects.—Inflammation and gangrene of the mucous membrane of the alvine canal.

Treatment.—Copious draughts of warm water or any bland fluid, afterward a tea of slippery-elm or other emollient, and a course, repeated, if necessary.

Case 11.—Caustic Potash.

The same symptoms, effects and treatment as above. Coley. Treatment the same.

Case 12.—Ammonia.

Symptoms.—“When a large quantity is swallowed, a sense of suffocation is immediately felt, and quickly followed by convulsions and death. In milder cases, the mouth and throat are excoriated; great pain is felt in the stomach and bowels. Severe vomiting with discharge of blood from the stomach and bowels, delirium, convulsions, death.”

Treatment.—Same as for potash.

Case 13.—Sulphuric Acid. Aqua fortis.

Symptoms.—Sharp, corrosive taste about the lips and mouth, burning in the throat, esophagus and stomach, with excessive pain, vomiting and fetor of breath, difficulty of respiration, intense symptoms of abdominal inflammation, small and irregular pulse, great anxiety, convulsions and death.

Effects.—Inflammation and gangrene. The coats of the stomach are ulcerated, black, and corroded; and the organ is distended with gas and dark bloody matter. The same appearances, diminishing in degree, extend through the whole intestinal tube. Treatment as above.

Antidote.—Milk, powdered chalk, magnesia, potash or pearlash and soda.

Case 14.—Nitric Acid.—Aqua fortis.

Symptoms.—A sense of great heat and pain in the mouth, throat, and stomach; breath fetid, violent vomiting, casting up shreds of membranes. When life is not immediately extinguished, obstinate costiveness and horrible indigestion prevail.

Effects.—Inflammation, gangrene, and perforations of the mucous membrane of the alvine canal, or covering it with a yellow coat. Treatment as above. Antidotes as for sulphuric.

Case 15.—Muriatic Acid.

Symptoms.—Heat and pain in the mouth and throat, with great thirst and vomiting. Eyes inflamed, skin hot and dry, pulse hard and frequent. Bloody mucus vomited; agonizing pains, cold clammy perspiration, delirium, coma and death.

Effects.—Inflammation and gangrene. Mouth, esophagus, and stomach of a deep red color; patches of extravasation of blood, and perforations of the mucous coat, and sometimes the entire tissues of these viscera.

Antidotes, same as for sulphuric acid. Where these are at hand, safe and effective, they should be immediately applied, and followed at once by third preparation of lobelia or its equivalent in lobelia, cayenne and nervine, and vomiting produced as soon as possible, then an enema and the bath. Continue this course until the poison is removed, and then give emollient articles of food, an alterative medicine, and the bath and enemas until the health is restored.

The principal vegetable poisons *used by physicians*, and, of course, those which will be most commonly met with in practice, are the following:

Case 16.—Oxalic Acid, obtained from Wood Sorrel.

Symptoms.—Great nausea, and attempts to vomit, a dry, burning taste in the mouth, and great pain and oppression in the epigastric region, the pulse hard and contracted, the forehead bathed in perspiration; small quantities of mucus, tinged with blood, evacuated from the stomach. The pupils are dilated, the intellect wanders, and violent delirium, convulsions and death succeed.

Effects.—Inflammation and gangrene of the stomach and intestines. A viscid, light colored mucus is observed on the tongue and fauces, and sometimes a portion of the stomach is converted into a pulpy mass. The brain also is affected.

Antidotes.—Alkalies, magnesia, ley of wood ashes, or soap suds, if nothing better.

Treatment.—An emetic of lobelia, etc., as soon as possible enemas and the vapor-bath, then alteratives to keep up the depurating action. Repeat the emetic if relief be not obtained.

Case 17.—Prussic Acid.

Obtained from the stones of peaches, cherries, bitter almonds, etc., called also hydrocyanic acid, and the most instantaneous of the destructive poisons. The smell of it from a vial is immediate destruction. A drop on the hand has killed a man.

Symptoms.—When very small quantities have been taken, less than eight or ten minimis, stupor and vertigo, nausea and fainting, obscure vision, im-

peded respiration ; vomiting dark colored and bloody matter, dilated pupils, cold clammy sweats ; irregular pulse, prostration of strength, coma and death, are the results.

Effects.—Entire prostration of the nervous system, similar to those of lightning.

Antidote.—Liquid ammonia, oil of turpentine, solutions of chalk and magnesia.

Treatment.—Dash cold water over the face and on the breast as quickly as possible, and give, by enema and the mouth, third preparation freely until the action is roused, when a full course of medicine should follow. Then treat as for oxalic or other acids. The same course as when one is stunned by lightning, which see.

Case 18.—Phosphorus.

"A very inflammable substance, used in the common matches, by eating which several children have lately died.

Symptoms.—Violent pain in the stomach and bowels, a hot alliaceous (onion-like) taste, great arterial excitement, convulsions and death.

Effects.—Inflammation and gangrene.

Antidote.—A solution of magnesia.

Treatment.—An emetic as soon as possible, with large draughts of hot tea of a relaxing and stimulating character, as catnip or sage, and cayenne; then enemas and the bath as above.

Case 19.—Opium.

The concrete juice of the capsule of the white poppy, four grains a deadly dose.—Hooper. Morphine or Morphia, is a preparation from opium, and consists of its active principle. One grain frequently kills.

Symptoms.—“Drowsiness, stupor, low muttering delirium and sterterous breathing, cold sweats, and convulsions. Countenance pale and contracted, pulse frequent and irregular until it assumes the slow, heavy beat of apoplexy; frequent sighs are forced from the sufferer, and the respiration becomes more laborious until death closes the scene.”—Coley.

Modus operandi.—“Opium acts on the nervous system, rapidly diminishing the sensorial energy ; or by absorption, on the circulating system ; in the first instance, destroying by suffocation, from paralysis of the respiratory muscles ; in the second, by inducing apoplexy, when determined to the brain, or paralysis and syncope, when extended to the heart.”

Effe:te.—As it acts on the nerves, the symptoms are the principal effects produced. Slight inflammation of the meninges, and effusion into the ventricles of the brain, sometimes occur. There is no direct antidote known.

Treatment.—The most powerful stimulants, as third preparation of lobelia, and large doses of cayenne, with warm mint teas, should be administered at once, and, after full emesis, enemas and the bath. What is gained should be sustained by the diffusive stimulants, until the full balance of vital power is regained. For further remarks about this deadly drug, which, Professor Gallup says, does “seven times as much mischief as good on the great scale of humanity,” and by which, Professor Eberle said (Children, page 199), “innumerable infants are irretrievably ruined.” See Criticisms, etc., numbers 70 to 79.

Case 20.—Nightshade.—*Atropa Belladonna.*

An acrid poison found in the leaves, flowers and berries of this plant, especially the leaves. Taste nauseous, sweet and slightly acid.

Symptoms.—“Dryness and difficulty of swallowing, sickness and vertigo, violent headache over the orbits, redness of the eyes and dilatation of the pupils. A uniform redness sometimes prevails over the surface of the body, the urinary passages are affected by a very painful irritation, with a constant, but fruitless desire of micturition. Delirium and convulsions succeed, and coma soon announces the approach of death.”—Coley.

Effects.—These are much the same as those of opium, except that it acts slightly on the bowels. It acts on the nerves and through the circulation. The body swells, and putrefaction soon follows death.

Antidotes.—Acid drinks, as vinegar and water, lemon juice, etc., somewhat neutralize the poison, which is alkaloid in its nature.

Treatment.—The same as for opium. In both these cases, as in poisoning by prussic acid, slight shocks of electricity, when they can be applied, will be very useful, and still better the electro-magnetic influence. But, as these are not always convenient for want of apparatus, the course above presented must be pursued.

Case 21.—Digitalis Purpurea.—Foxglove.

The foxglove is cultivated in the gardens and green houses, and is one of the most beautiful plants we have.

Character.—Taste bitter, nauseous, and slightly acrimonious, odor heavy and acrid—narcotic.

Symptoms.—“Extreme nausea, vertigo, indistinct vision, tremors, chilliness and stupor. Violent sickness, continued hiccough, cold sweats and excessive debility, syncope, convulsions and death.”

Modus operandi.—A powerful and direct sedative, or depressor of the action of the heart and arteries.

Effects.—Not very manifest except in the symptoms while living.

Antidotes and Treatment.—Ammonia and coffee are recommended by physicians, and, strange to tell, though they call digitalis and opium direct and powerful sedatives, they recommend each as antidotes to the other. The only true antidotes to either, are the most powerful diffusive stimulants, as cayenne, lobelia, and the aromatic herbs, nervines, enemas and the vapor-bath.

Case 22.—Tobacco.

Symptoms.—“Nausea, severe vomiting and headache, depression of the nervous and muscular energy, cold, clammy sweats, convulsions, death. The infusion of tobacco affects the brain, while the oil suspends the action of the heart.”—Coley.

Effects and Treatment.—Same as for digitalis.

Case 23.—Henbane, Hyoscyamus.

See the botanic descriptions. A narcotic poison. Taste insipid and glutinous. Odor strong and fetid.

Symptoms.—Extreme sickness, lassitude, stupor, dimness of sight, a hard and quick pulse, dilatation of the pupils, the pulse becomes weak and irregular, delirium sets in, followed by coma, and, in many cases, petechiae appear before death. It acts through the circulation, inflames the stomach and bowels, and engorges the brain and lungs with blood.

Treatment the same as for digitalis; rouse the action, equalize it, cleanse and support the system. Mucilages are useful to shield the passages.

Case 24.—Hemlock.—Cicuta, Conium.

Poisonous plants of the umbelliferous class, like the carrot and angelica (much resembling the latter), with numerous, small, white flowers, growing in marshy places, and along streams. "Taste, bitter, nauseous and herbaceous. Odor heavy and disagreeable."

Symptoms.—Nausea, violent sickness, difficulty of respiration, and excessive anxiety; vertigo, delirium; sometimes great dilatation of the pupils, stupor, convulsions and death.

The effects are much the same as those of *hyoscyamus*, and the treatment should be the same.

Case 25.—Hellebore.—Veratrum album.—Radix.

Symptoms.—Vomiting and excessive and bloody dejections, anxiety, tremors, vertigo, low and feeble pulse, cold and clammy perspiration, pain in the abdomen, syncope, convulsions, death.

The effects and course of treatment the same as for henbane.

Case 26.—Black Hellebore.—Melampodium.—Radix.

"The fibers of the root containing the active principles, are black, externally, but white or yellowish within.

Symptoms.—Nausea and vomiting, severe pain in the stomach and bowels, vertigo. If not immediately thrown up, extreme prostration, and, in a few hours delirium and death."

Treatment, same as above.

Case 27.—Colchicum.—Meadow Saffron.

Bulb and seeds of the *colchicum autumnale*. "Taste, bitter, hot, acrid. Inodorous.

Symptoms.—Nausea, vomiting, violent pain in the bowels, diarrhea. Acts through the circulation, producing prostration, coma and death."

Treatment.—In the treatment (generally as above), great attention should be paid to the surface and bowels. The vapor-bath and stimulants to the surface, enemas to the bowels.

Case 28.—Savin Leaves.

"An acrid narcotic poison, of a hot and bitter taste, and a strong and disagreeable odor.

Symptoms.—Excessive nausea and vomiting, great pain and heat in the stomach and bowels, frequent and bloody stools, prostration of strength, intolerable anxiety, occasionally merging into delirium, convulsions, coma, and death."—Coley.

Treatment as for *colchicum*. Acts chiefly on the alvine canal.

Case 29.—Ergot, or Rye Spur.—Secale Cornutum.

When abundant in the rye in some seasons, it has poisoned whole families and neighborhoods, and destroyed many lives.

Symptoms.—When taken "as a medicine," it produces "a sense of creeping or tingling over the whole surface, with great heat in the extremities, heartburn and pain in the stomach and bowels, vertigo, cramp in the limbs, in the region of the heart and stomach, delirium, stupor, convulsions, death.

Acts on the alimentary canal, heart and brain. In those who survive, it often produces the most distressed condition of the nervous system, and sometimes extensive gangrene of a most loathsome character. Yet this is the "Magnum Dei donum" for aiding females in the performance of the severest task which they are ever called to perform.

Treatment.—A thorough course of medicine, followed by alterants and stimulants, and frequent vapor-baths and enemas.

Case 30.—*Agaricus, or Toadstool.*

It is difficult to distinguish what is called the edible mushroom, from others, therefore it is best to avoid them all.

Symptoms.—“Nausea and vomiting, the bowels are severely purged, each dejection causing extreme pain, and sometimes a discharge of blood; an ardent thirst prevails, cramps of the extremities with vertigo and delirium ensue; the countenance becomes ghastly and anxious; a copious perspiration bedews the surface, and chills and convulsions are the precursors of death.”—Coley.

Affects the stomach and intestines, and the vital organs through the stomach and intestines. The surface is covered with brown or black spots, the pupils of the eyes are contracted, the cavity of the abdomen inflated with gas, the stomach and intestines inflamed and gangrenous, the lungs gorged with blood; the liver and spleen are in the same condition and the brain is extremely vascular.

The treatment should be the same as for the other severe poisons.

The vegetable poisons in general produce little lesion of the organs, though they dispose to immediate putrefaction. They seem to instantly and utterly annihilate vitality in matter, so that “it will not keep,” as it is termed, the ordinary length of time after death. Yet all but the last of the above, with multitudes of others (see the Dispensatories), are used by the fashionable doctors as remedies for disease, and even many who call themselves reformers of physic, use freely, opium, belladonna, digitalis, hyoscyamus, cicuta, veratrum, colchicum, ergot, and a host of others equally destructive to life! Alas for the weakness, inconsistency, absurdity and wickedness of man! and for reform when its friends are so unconscientious.

Let us but for a moment glance the eye over the preceding list of poisons, and we shall see a list of symptoms and effects, ascribed by those who know them best to the action of these boasted *remedies* for disease, which, for their obstinacy of removal, their destructive tendency, and their misery, and loathsome effects in the end, immeasurably surpass all the evils that result from all the natural disease, the accidents and injuries, to which the human race are liable! Better—incomparably better were it for civilized man, were he forever deprived of the services of a doctor of any sort, than to be supplied with the most learned and skillful of the present day dealers in poison!

ANODYNES and **NARCOTICS** generally signify the same thing, only in different degrees, namely, agents which tranquilize the nervous agitation, relieve pain and promote sleep. There are, however, two different and distinct ways to effect these objects, and of course, two different characters of remedies to be used for the purpose. The popular method is to administer articles, as opium, digitalis, etc., whose natural tendency is directly to depress the vital powers, by depriving the organs of their irritability and sensibility—their capability of manifesting excitement and feeling pain. The true plan is to give innocent antispasmodic teas, as of lobelia, spearmint, catnip, with the

bath, etc., which warm and expand the system, remove obstructions, and take off irritation from the nerves. This is the true anodyne effect, and the only one which it is justifiable in the practitioner to produce. All the popular anodyne mixtures that contain opium in any form, though soothing for the present, are ultimately and surely pernicious. In the language of my friend, Professor Gallup, "they do on the great scale of humanity, seven times as much mischief as good;" in that of Sir James Johnson, though "their allurements possess all the suavity of the serpent of Eden, the deception is too often equally fatal;" and in that of the late Professor Eberle, "innumerable infants have been irretrievably ruined by these destructive palliatives."

A more pernicious and destructive error never entered the brains of the medical faculty than the doctrine that certain agents are stimulating in small doses and sedative in large ones. Take, for example, the following from Paris, one of the highest authorities of the present day, on this subject. *Pharmacologia*, edition of Charles A. Lee, New York, 1845, page 109 :

"**NARCOTICS.** Synon.—*Anodynes*—*Hypnotics*—*Soporifics*.—Substances which, in moderate doses, occasion a temporary increase of the actions of the nervous and vascular systems, but which [increase] is followed by a greater depression of the vital powers than is commensurate with the degree of previous excitement, and which [depression] is generally followed by sleep. In large doses, the symptoms of diminished sense and action follow so immediately, that the previous stage of increased action is very obscure, or not in the least perceptible.

"These facts have led many physiologists to deny the stimulant nature of narcotics, and to consider their primary operation as one of a depressing kind; and hence to arrange them under the general denomination of **SEDA-TIVES**. If we refer to the classification of Cullen (page 104), we shall find that the arrangement of these bodies has been directed in strict conformity with such a view of the subject; but it may be asked, how the increased excitement and exhilaration which so obviously follow the administration of these bodies, in small doses, can be reconciled with the theory which regards them as absolutely and *primarily* sedative? In order to combat an argument so fatal to his hypothesis, Dr. Cullen summons to his aid the potent intercession of his tutelar deity, the '*Vis Medicatrix*,' a power which he supposed to preside over the living body, and with anxious violence to resist the invasion of every thing that is noxious or hostile to its health and well-being. With such assistance it was not difficult to explain any paradox in physiology; and the anomalies attending the agency of narcotic medicines were, accordingly, in the school of Cullen, easily reconciled with the views of a favorite theory. He supposed that whenever a 'sedative' was applied in a moderate dose, the 'vis medicatrix' took the alarm, and excited all the powers of the system in order to throw off the noxious application, and that thus *indirectly* arose those peculiar symptoms of increased action; but when the dose was more considerable, he contended, that the conservative power of the system was silenced, and unable to offer any salutary assistance, and, consequently, that severe depression immediately followed."

These views of Cullen are strictly correct—had the medical world adopted them and carried them out in a consistent practice, the use of opium and all the narcotics would long since have been abandoned. But, because Dr. Paris could not reconcile this doctrine with the action of opium and his notion of its beneficial effects, he abandons the truth and adheres to error. He adds: "But there is no direct evidence in support of the existence of such a power, and still less of its influence on such occasions."

What a philosopher! no evidence of the existence of a vital power in the body, and still less that it preserves that body against the action of external and injurious agents! really the man is mad. Why does not the living body every day decay as does the dead? "It is far more philosophical to refer the operation of narcotics to a peculiar stimulating power, remarkable for the extreme rapidity with which it exhausts the energy of the nervous system." So it seems that the vital power has nothing to do with exciting the system to action, but narcotics can do it! Consequently all we have to do to a dead body is to ply it with narcotics, and the wheels of the machinery will roll rapidly along! Again, he says: "No one will deny the stimulating power of alcohol, and yet a very large draught of this liquor will occasion extreme exhaustion, even to the extinction of life, without the occurrence of any signs of previous excitement; nor will any one be disposed to question the depressing influence of opium, and yet small doses have enkindled excitement and sustained the powers of life under circumstances of extreme and alarming exhaustion."—Paris.

Such nonsense is unworthy to be answered with logic. The best reply is, if you strike a child with a small switch, you provoke an excitement, and this you call stimulation; if you strike him with a club, and knock him down, the action becomes sedative! His remark about these deadly means "enkindling excitement under states of extreme and alarming exhaustion," reminds me of a scene of my boyhood. A. B. and myself went into the woods on a bitter cold day (the snow three feet deep), to cut a tree for sleigh-runners. Before we had accomplished our object, B. became so benumbed by the loss of caloric that I was much "alarmed" for his safety. I tried by persuasion all I could to get him to exert himself, but in vain. He was "extremely" sluggish if not "exhausted." Recollecting that he had in him a *vis conservatrix naturæ*, which was very easily provoked, I began to cuff his ears and slap his face, and finally actually doubled my fist and hit him a severe blow. This, like the stimulating dose of Dr. Paris' narcotics, so excited him that he rose in anger and we had a smart battle, to which I did not choose to put a stop, until he became quite out of danger from freezing. If Dr. Paris' notion is correct, I might have let him freeze "even to the extinction of life," and then begun my provocation; it would have been just as well.

"We have no evidence of the existence of a *vis medicatrix naturæ*," albeit it builds up an organized body and daily sustains it, but "the peculiar stimulating properties of narcotics," or a heavy blow on the head, are so manifest that, had I left A. B. "even to the extinction of life," a small dose of opium or a cuff on the ear would have restored him, while an ounce of laudanum or a blow with an ax would have stimulated him so rapidly to exhaustion that the first part of the process could not have been discovered! Out upon such nonsense!

Case 31.—Animal Poisons.

Of these the principal are,

CANTHARIDES, or Spanish Flies.—These are used to draw a blister. When taken internally they produce "nauseous odor of the breath and stomach; frequent vomiting and copious bloody stools, extreme pain in the abdomen; painful and obstinate priapism with heat in the bladder, strangury and retention of urine, convulsions, delirium and death."—Coley.

Effects.—Inflammation and gangrene, of the stomach and intestines, kidneys and bladder. When used on the surface for blisters, the same effects

are produced on the urinary organs and bowels. Yet these are the means which "science falsely so called," uses to prevent and relieve inflammation of the bowels!

Treatment.—Emollient and antiseptic remedies internally, and poultices externally, in conjunction with lobelia and the bath.

Lightning, Prussian Acid and Mephitic Gas, all deprive the nervous system of its vital power, often without depriving it of its essential integrity. When this is the case, a dash of cold water into the face, on the breast and along the spin, will often arouse the nerves from their paralysis, and then strong stimulants, as third preparation of lobelia, to the mouth, by enema and on the surface, will continue the action. Electricity, by isolating and charging the body, and drawing it out with the hand, or the application of the electro-magnetic apparatus, where it can be had, will be excellent. Every physician should have one of these. They cost, now, but twelve dollars, and will be still cheaper when extensively used. After these immediate applications, the horizontal or cot bath should be applied as soon as possible, but very gently at first, and gradually increased, until the action is fully raised within. The perspiration should be kept up from three to twelve hours, and, if the patient was well before the accident, he will be well now. If not, give him a full course of medicine and treat him as if no accident had occurred, that is, according to present symptoms.

Stunning by a blow or a fall, should be treated in the same manner—and *Drowning* should be treated in this way, except the dash of cold water.

It has been so long the fashion to bleed for stunning by a fall, or blow, that it is difficult to convince the community that it is not indispensable, and much more difficult to convince them of the fact that it is very injurious. To prove this, we need only advert to the fact that almost all the advocates of the practice say, we must not bleed until reaction takes place, that is, until the vital energies of the system arouse for the purpose of removing the injury done by the fall; and then it is done to prevent the vis vitæ from doing too much for the benefit of the patient. This is the same old plea for blood-letting for fever and inflammation excited by any other cause, which plea, I trust has been entirely nullified by fifty years' experience of the true Botanic Practice. This experience has demonstrated that nature's indication is to equalize the circulation, not to drain away the crimson stream of life.

I have had many cases of falls, etc., and I never bled one nor lost one. My plan has been to give hot medicines, (of which, when practicing, I always carry some in my pocket in a fluid state, as third preparation, cholera sirup, number six, etc., for immediate action), in small doses, frequently repeated, applying at the same time, warmth and moisture to the surface in the most convenient way that the circumstances will admit. I continue this process until, as I said above, I equalize the circulation, when, if all is not right, I give a full course of medicine, and such after treatment as the case may require.

Nor are the popular medical faculty any wiser in regard to the action of any other of their remedies, than they are in respect to that of narcotics. They have never been able to learn when they should let blood, nor how much they should draw, because of their refusal to take into the consideration of their treatment, the action of the vital power as the primary source of all restorative processes. So long as the human system can revolt at this unnatural and inhuman sanguinary process, it never fails to do so, and this repulsive energy of nature is attributed to the action of the cause of disease, instead of that of the vital power for self-defense, and, as Professor Good

said, "The unhappy patient is bled again and again, until it is strangely supposed that the entona plethora, or congestion is removed, when there is no longer any reactive power remaining, and he yields up the ghost to the treatment instead of the disease." And thus it happens that notwithstanding Professors Harrison and Morehead of the Ohio Medical College, believed the lancet to be, in many acute forms of disease, "the great anti-inflammatory, anti-febrile alterant of the *materia medica*," "in those cases in which it is decidedly indicated emphatically *the remedy*;" yet they were obliged to confess that, in precisely those cases, the excessive use of it is irremediable, on account of the fact that it deprives the system of its only recuperative means, "the slow process of nutrition." Most safe when least wanted—inadmissible when most needed! a glorious medicine, truly.

Of mercury, also, it is said, for the same reason, by high authority (Wood and Bache), "Of the modus operandi of mercury we know nothing, except that it acts through the medium of the circulation, in many cases subverting diseased action by substituting its own in its stead."

Professor Harrison says, now, it "promotes all the secretions;" then, it is "a powerful depressor of the energies of life;" now, it "disposes ulcers to heal;" then, it "produces gangrene," and "manifests any thing but a curative agency;" now, it is "the great anti-inflammatory—anti-febrile alterant of the *materia medica*;" then, it "produces gangrene of the flesh," and destruction of "the glands and the bones;" and finally "that it cures, we know—but how it cures we know not!"

So, too, it is with their digitalis and niter. In small doses and where the system is in a *peculiar* undefined and undiscoverable state, they are said to act most kindly and in perfect harmony with the scientific indication, in producing "a gentle diaphoresis that contributes more than all other things to the recovery of the patient;" but, should the dose be a little increased, or should it prove without increase too much for the remaining undiscoverable degree of vital power for defense, forthwith these panaceas, these sweetly healing balms, change their nature, and soon deposit the earthly portions of their duped and ruined victims in the dark and silent mansions of the dead!

Antimony too, that "invaluable antispasmodic," and cleanser of the stomach, in cases where there is vital power enough to dispossess it from the system, is capable of so changing its power in some of its officinal forms, that, in some cases, a hundred grains are taken without any apparent effect, while in others not known to differ from the first, a single grain has driven the life spark from the miserable victim. Like mercury, it is "an agent of such diversified therapeutic powers," that the wisest of the faculty have never ventured to prescribe and fix limits to its action. "But the time would fail me to tell" of copper, of lead, and of silver, of iodine, of zinc, of barytes, of nightshade, of hemlock, of laurel, etc., etc., all which *et id omne genus* (and all other similar articles), have destroyed and are still destroying more lives than have the sword, the pestilence and famine.

The truth is, that all agents act on the body in the same manner, whether in small or in large doses—the size of the dose can never change the nature of the article—that wholesome stimulants, that is, those which act in harmony with the vital power, always increase the action of an organ until, if their action is sufficiently severe and permanent, it is so overwrought as to become fatigued and unimpressible by their power; while narcotics or sedatives always tend to depress the action of the vital organs in proportion to their quantity; and, finally, that the advocates of the popular system of medicine, can never have any correct theory of disease, until they abandon all poisons as medicines.

MATERIA MEDICA AND PHARMACY.

In numbers 19 to 31, inclusive, and in the treatment suggested under the various genera, I have given the names and the general properties of the most important articles of medicine used in our practice. I arrange them here under appropriate heads in such a form that the eye of the practitioner can catch them at a glance, and select from them the proper articles for any emergency. There is one great obstacle to the accuracy of all such arrangements, which is, that most plants possess several qualities, and therefore may be arranged under different heads. For example, boneset is sudorific, emetic, cathartic, alterative, vermisfuge and tonic! according to the method of using it. How then can it be arranged under any particular head? Other articles are in the same category. In fact, most "plants are compound medicines prepared by the hand of nature for the benefit of suffering humanity."—Prof. Samuel Latham Mitchell, late of New York.

I here, therefore, as I did in my obstetrics, give each under its most prominent character or denomination, and shall mention its other important properties and uses in a more extended description.

No. 1.—Classification of Remedies.—Antispasmodics.

By antispasmodics are meant those agents or articles that directly relax animal fiber—all the tissues of the body except the osseous. They are nauseating, as lobelia and skunk cabbage; sweet scented, as spearmint and bergamot; bitter, as skullcap and cypripedium; cathartic, as butternut and leptandra; emetic, as lobelia and boneset; sudorific, as catnip and sage; stimulating, as asarum and aristolochia, and even astringent, as camphor, allspice and cloves. But these different properties arise from their compound nature. The pure emetic principle, as found in lobelia, is nauseous; so is the pure bitter principle, as in ptelea. But many, nay most vegetable substances, contain several of these principles. The sage is sudorific and astringent; catnip is bitter and sudorific; cypripedium is bitter and nauseating; leptandra is bitter and cathartic, but not nauseating; asarum is stimulant and aromatic; boneset is emetic, sudorific, bitter and cathartic. Hence it is impossible to classify them according to all their properties. We can only arrange even the relaxants, according to the most *prominent*; and this is what I have attempted, according to my observation of their physiological properties and effects.

I have said that the first indication for the cure of disease, is to relax the tissues. Of course, the best and the most convenient means to effect this object, should be first on our list of remedies. The *best* is the vital force itself; though from the general ignorance of its power, and the modes of its use, it is not the most available. The next to this is "warmth and moisture." (See page 101). The most powerful among the medical agents, is lobelia inflata, though, from its nauseating quality, it is not very pleasant to the taste; hence, when the case is not urgent, we substitute for it the aromatic nervines, as spearmint, sage, peppermint, asarum, catnip, etc. But, as lobelia is the most powerful of the material relaxants, and can be trusted when all others

fail—as it is as innocent as it is powerful—the only objection to its use being the very property (the nauseating) which makes it the most valuable, I commence the list with this article.

Lobelia inflata is, at once the most speedy, powerful and innocent relaxant or antispasmodic known to medical men. It is also so volatile that its influence is rarely known to last twelve hours. It is usually spent in two or three hours, when it passes off by vomiting or by perspiration, leaving the patient *always* in a better condition, as it restores the equilibrium of organic capability. It acts through the medium of the nervous system, and, therefore, so diffuses itself, as, in almost all cases to prevent its action on the bowels, as a cathartic, and in the very few instances in which it does appear so to act, it produces this effect, by the relaxation of the general system, when irritating obstructions in the alvine canal commence their motions downward.

The first use of lobelia is in the form of an emetic, for which purpose it is altogether superior, in both value and safety, to any thing else ever used by the profession.

Dose, for an adult, to excite emesis, one teaspoonful to three, of the powdered leaves, and pods, or one teaspoonful to two of the seed, in warm water, or any tea, and sweetened to the taste. If the powder is fine, it may be taken in the fluid; and a less quantity will answer. In acute cases, especially gastritis, it is better to divide it into three or four portions, and take them at intervals of fifteen minutes, drinking bland teas between. In chronic cases, of cold, inactive stomach, it should be preceded by two or three cups of strong composition or astringents and cayenne, and taken all at once, or at most, twice. When used as an alterative, it should be taken in small quantities, frequently repeated, in honey, molasses, or sugar, or, which is the best way, in pills of the powdered seeds, or of the inspissated juice. For this purpose, it should be given in quantities just sufficient to nauseate, but not to excite reaction or vomiting. It is better, also, to combine it with bitterroot, blackroot, nervine, etc. I have it made into lozenges, by stirring the powdered seeds into common cream candy, while cooling. Our friends in the country could put it into their maple sugar just before it crystallizes, and stir it until it cools.

Lobelia should be given, in some of its preparations, in all those cases where it is found difficult to produce a desired degree of relaxation, by the use of the aromatics, the less nauseating antispasmodics and the vapor bath.

The following table comprises a number of our most valuable antispasmodics, from some of the most nauseous and disagreeable, to some of the most aromatic and pleasant:

Lobelia inflata.—Extremely relaxant.

Eupatorium perfoliatum.—Bitter, relaxant, nauseating, emetic, sudorific, cathartic.

Scutellaria lateriflora.—Bitter and relaxant.

Apocynum.—Bitter, nauseating, cathartic, emetic.

Camphor.—Aromatic,* antispasmodic and astringent.

Ictodes, fetida.—Aromatic, nauseating and relaxant.

Assafetida.—Aromatic, nauseating and relaxant.

Cypripedium.—Aromatic, nauseating, bitter and relaxant.

Anise.—Aromatic, pungent, pleasantly relaxant.

Caraway.—Aromatic, pungent and slightly stimulant.

Fennel.—Aromatic, slightly pungent and nauseating.

* All aromatics are diffusive and anodyne, unless counteracted by powerful astringents or stimulants.

Angelica.—Aromatic and nauseating.
Loveage.—Aromatic and nauseating.
Macrotrys racemosa.—Acrid, diffusive and relaxing.
Asclepias.—Relaxing and sudorific.
Ginseng.—Aromatic and nervine (not much used).
Castor.—Aromatic and nauseating.
Musk.—Aromatic, rather pleasantly scented, nervine.
Asarum.—Aromatic, acrid and nervine.
Aristolochia.—Aromatic, acrid and nervine.
Catnip.—Aromatic, sudorific, and pleasantly astringent.
Sage.—Aromatic, sudorific and bitter.
Pennyroyal.—Aromatic, stimulant and sudorific.
Dittany.—Aromatic, stimulant and sudorific.
Peppermint.—Aromatic, stimulant and sudorific.
Horsemint.—Aromatic, stimulant and sudorific.
Mountainmint.—Aromatic, stimulant and sudorific.
Spearmint.—Pleasantly aromatic, nervine and volatile.
Bergamot.—Very pleasantly aromatic and nervine, very volatile.

Almost all the labiatæ, *all simple bitters*, as tansy, wormwood, quassia, columbo, camomile, and the like, are, of course, more or less diaphoretic or sudorific. They should all be administered in warm water, to produce their most salutary effects as relaxants. The extracts and oils are good. The above are only specimens. There is no known limit to the number and variety of articles in the vegetable kingdom, that will act as antispasmodics or relaxants. They may be detected by smelling and tasting them.

2.—Stimulants.

All medicines are, in a certain sense stimulants; as they all excite the organs to some kind of action. But we usually call stimulants all those articles or means that give to the organs an increased physiological action, without permanent astringency or relaxation. Of this class are

Capsicum,	Grana Paradisi,
Zingiber,	Piper nigrum,
Xanthoxylum,	Cubebs,
Cardammons,	Acorus calamus.

Many of the labiatæ relax but little, and are predominantly stimulant, as pennyroyal, summer savory, horsemint, monarda, pycanthemum. So the polygonum punctatum, cardamine, cochlearia sinapis, etc., but the last two are rather too volatile for general use.

The most powerful and valuable stimulant to the heart and arteries, is undoubtedly capsicum, of the species called African bird, which is cultivated in Sierra Leone and Madagascar. The pure cayenne of South America is good, and it may be raised in this country of sufficient strength to answer most purposes.

In making additions to this list, or seeking substitutes for any of the articles here named, select those which, when chewed in the mouth, produce a burning or acrid sensation, a free discharge of saliva, and neither nauseate the vessels nor astringe them, immediately nor finally. The articles which will do this the most perfectly, and continue their effects the longest, are the best.

They are, of course, to be used whenever it is necessary to increase the action of the heart and arteries, and all the secerents and excernents of the system.

3.—Astringents.

These are articles which, chewed awhile, produce puckering of the mouth:
Geranium maculatum, root.—Almost purely astringent.

Oak bark, nut galls.—Astringent and acrid, nut galls acid.

Statice Carolinianum, root.—Powerfully astringent, slightly aromatic.

Prunus serotina—choke cherry.—Powerfully astringent, slightly stimulating.

Hamamelis Virginica, leaves and bark.—Aromatic and moderately astringent.

Geum Virginianum, root.—Aromatic, astringent and chocolate tasting.

Persimmon, rareripe, fruit.—Powerfully astringent when green, astringent and emollient when ripe.

Rubus strigosus, leaves and roots.—Aromatic and moderately astringent.

Rhus glabrum, leaves and bark.—Astringent, stimulant and slightly acid.

Pinus abies, hemlock bark.—Astringent and slightly aromatic.

Sanguinaria Canadensis, root—best escharotic for fungus—astringent and acrid.—Thach. 682.

Alum water, for epistaxis—alum curd for inflammation, beat with whites of eggs.—Very astringent.

Lime water.—Astringent and alkaline.

Lycopus Europeus.—Very astringent; an excellent styptic.

Borax solution, and salve, with honey, for sores, chaps, etc.—Very astringent and healing.

These and other similar articles are used in all cases where it is desired to contract the living fiber, as in hemorrhages, diarrhea, diabetes, fluor albus, etc. They may be multiplied from the vegetable kingdom *ad infinitum*, and combined with relaxants to produce an alterative effect, and with stimulants and aromatics to remove canker.

Some of the antispasmodics by virtue of their permanency of action, determine more to the kidneys than to the surface, and are hence called—

4.—Diuretics.

Eupatorium purpureum.—Bitter, acrid, emollient.

Lactuca.—Acrid and mucilaginous.

Potentilla.—Diffusive and permanent.

Asparagus roots.—Mucilaginous and acrid.

Cucurbita, *citrullus* and *pepo*, seed.—Mucilaginous and slightly acrid.

Allium sativum.—Acrid and mucilaginous.

Aralia nudicaulis.—Acrid and mucilaginous.

Cochlearia, Armorica.—Acrid, and pungent, or stimulating.

Copaiba, *Spirea ulmaria*, queen of the meadow.—Mucilaginous and acrid.

Gallium aparine.—Antispasmodic and sudorific.

Leontodon.—Acrid and mucilaginous.

Lithospermum.—Stimulating and slightly astringent.

Linum seed.—Mucilaginous.

Scilla maritima.—Mucilaginous and acrid.

Aralia racemosa.—Mucilaginous and acrid.

Arbutus uva ursi.—Acrid.

Juniperus, and *pinus*.—Acrid and aromatic, and slightly mucilaginous.

Sambucus nigra.—Mucilaginous and acrid.

It will be seen that all the above articles contain relaxing properties, the

most of them mucilage, a smaller number, the acrid principle, and many of them all these united; as lactuca, leontodon, scilla, allium, aralia, arbutus, copaiba, juniperus, elder, turpentine, asparagus, etc.

This is the reason why these articles, particularly sarsaparilla, elder, and copaiba, etc., have been so long used for affections of the kidneys, and would be, if the system were well cleansed before using them, so valuable in these forms of disease. We are also taught by this fact, that all acro-mucilaginous substances, as sarsaparilla, and dandelion, are good diuretics, and for the same reason, they are good promoters of all other secretions, if we retain them on the sluggish organs. They may be used alone, or in conjunction; and may be manufactured out of other articles, thus:

Lobelia, slippery-elm, prickly ash bark. Equal quantities; or cayenne, one fourth part. Mix for diuretic.

5.—Escharotics.

For Polypus.—*Sanguinaria canadensis*. Apply the powder to the part, wash it in the tea; make it into a poultice. Geranium and other astringents are good. See cancer, tetter.

Fungus, or proud flesh. *Sanguinaria*, etc. Burnt alum. Apply in powder, as above.

Cancer, tetter, corns, fish skin. Extract of red clover, of wood sorrel, of poke root, or berries, or the inspissated juice of these. Caustic potash, see cancer. After the fungus, cancer, etc., is removed, poultice with slippery-elm, lobelia, tilia bark, marshmallows, lily roots, spikenard, comfrey roots, charcoal, tincture of myrrh, mullein, etc., cutting from time to time, with the escharotics, any fungus or hard flesh that remains, and then renewing the poultice until healed.

Probably the best articles above named, for escharotics, are the *sanguinaria* and sorrel, and the best poultices, slippery-elm, lobelia, *tilia* (basswood), charcoal and gum myrrh. Many more will be named in our *materia medica*, but they are not any better than the above. See escharotics.

Extravasation from bruises. Tincture in vinegar, of *sanguinaria* for the internal eye, with cayenne for the external surface. A strong decoction is quite as good, but not always ready.

6. Vermifuges.

1. *The bitter laxatives*.—Chelone glabra, apocynum, melia azedarach, ptelea, male fern, spigelia juglans cinnerea, extract eupatorium, wormwood, tansy, camomile flowers, pumpkin seeds, etc.

2. *The oils*, as of chenopodium anthelminticum (wormseed), olive, castor and linseed.

3. *The balsams*, as turpentine, cedar oil, juniper berries, and the juice of the arbor vitæ, balsam of fir, and of pine.

Mechanical, as dolichos pruriens, burnt corn cob, salt, etc.

5. *Escharotics*, as lime water, saleratus, ley of hickory ashes. See *materia medica*.

7.—Emollients.

Slippery-elm, *tilia* bark, flax seed, arrow root, liquorice, elder bark, mal-lows, hollyhock, lily roots, onions and garlics, leeks, barley flour, gum arabic, olive oil, Peru plant, tapioca, Iceland moss—all mucilaginous, lubricating and innocent substances. They are useful to quiet irritation, relieve inflammation and to nourish the system. They are used by the mouth, by enemas and in poultices.

8.—**Tonics.**

Tonics include the astringents and bitters, and most of the stimulants, as wild cherry, dogwood, poplar, peach bark, motherwort, golden seal, prickly ash, dewberry, grapevines, blackberry, etc.

9.—**Cathartics.**

Blackroot (*leptandra virginica*), butternut, (*juglans cinnerea*), bitterroot (*apocynum androsemifolium*, and *cannabium*.)

The above mild cathartics, simple or combined, and administered with a little cayenne and peppermint or other aromatic and diffusive, after an emetic and a bath, and their action followed by another bath, and a few of our best stimulants and tonics, are all that we have generally found necessary in the article of physic. If they are rejected, or refuse to operate when a pretty large dose is given, we put the patient on the bath, and relax him until they will operate. The dose of the *first*, when pure and fresh, is, for an adult, one heaped teaspoonful of the powdered root; for an infant, one eighth or tenth as much. If the medicine be badly cleaned of stems, old, or injured, or the system be not prepared, this dose will fail and you will be obliged to double, treble, and perhaps quadruple it.

Butternut.—The inner bark of the *juglans* is decocted and boiled down strong, and then put into a vessel which is put into a kettle of boiling water, and then the evaporation is continued to the thickness of tar, when it is taken out and kept in tin boxes. A pill of this, half an inch in diameter, is a large dose for an adult, a tenth of it for an infant. It may be dissolved in hot water, and sweetened, and a few drops of essence of peppermint added. It is often kept in the form of sirup, of which the dose varies with the strength of the medicine and the condition of the patient. No precise quantity can be given as a rule for every case; the practitioner must decide. But those who depend on cathartics to do what is better done by *lobelia*, the bath, and the above, find these quite insufficient for their purposes. They resort to more active articles, as castor oil, mandrake, jalap, aloes, gamboge, etc., which are not always safe.

Moreover, a choice should be made of the kinds of cathartics to suit certain intentions. The first two here given, when combined with cayenne or ginger and peppermint, are good, warming, diffusive, and not violent. **Bitterroot**, and **mandrake**, are more harsh and hydragogue. **Salts**, and **castor oil**, are cooling. **Sweet oil** and the mucilaginous articles, as slippery-elm, are soothing, and more suitable in cases of internal inflammation. **Magnesia** (calcined), and **charcoal**, are good where there is much tendency to gangrene; and, for acidity, a little saleratus or soda, may be combined with other articles. So other articles may be combined and you will have the benefit of all the elements.

Rhubarb is stimulant as well as cathartic, and thus proves tonic. So **butternut** and **blackroot**. These articles do not weaken like the drastics or hydragogues, because they determine to the surface as well as downward.

Aloes acts on the lower bowels, and, being also intensely bitter, is good to expel ascarides.

Sulphur determines to the surface, and destroys vermin. It is, therefore, good for the itch and other cutaneous affections.

The best form of **jalap**, is the alcoholic extract, dried away, and made into a pill, which may be combined with blackroot and peppermint. The extract, or the strong, cold decoction of boneset (*Eup. perf.*), is a mild cathartic and

stimulant, of course, an excellent alterant. This, with bitterroot, blackroot, and lobelia seeds, dandelion and chelidonium roots, constitutes a first rate preparation to excite the liver to healthy action. It is altogether superior to what the mineralites ever expect of mercury.

The bitterest articles, combined with salt, and given in a tea of cedar boughs, or of arbor vitæ, are the best for worms. *Manna, senna, jalap* and peppermint leaves in powder, make a good aperient for ordinary cases.

10.—Alterants.

The alterants are articles of a mild, but permanently relaxing and stimulating character, having a tendency, when properly combined, to promote all the secretions in due equilibrium.

They are bitter, as *chelone glabra, populus tremuloides, columbo root (fraxera carolinensis), quassia, artemisia, absinthium (wormwood), leonorus (motherwort), anthemis, officinalis (camomile), etc.* Or they are bitter and acrid, as *hydrastis canadensis, jeffersonia diphylla*; or bitter and aromatic, as *marrubium (hoarhound)*, or bitter and aromatic, and sudorific, as *salvia (sage), nepeta*; or they are mucilaginous, as *ulmus, tilia*; or mucilaginous and acrid, as *aralia, alium, or bitter and antispasmodic (of course, diaphoretic and sudorific, as cypripedium, scutellaria; or bitter and nauseating, as ptelea trifoliata; or stimulant, as cayenne; stimulant and nervine as ginger, asarum, panax; sudorific, as nepeta, asclepias, polemonium; diuretic, as gallium, asparagus, cochlearia, eupatorium purpureum, spiraea ulmaria, cucurbita (sem.); astringent, as myrica, abies, quercus, rhus, hammamelis, rubus; astringent and stimulant, as sanguinaria; nauseating, as lobelia, apocynum; cathartic, as leptandra, juglans; emmenagogue, as macrotrys, etc.*

But, as before observed, the fact, that most plants possess several powers, renders it impossible to class them under any single head. Many of the above answer several purposes that I have not indicated, and might be named under several different heads, as it is evident that a plant that is stimulant and aromatic, as pennyroyal, peppermint, sage, etc., must necessarily be antispasmodic, sudorific, anti-febrile, nervine, anodyne, and finally refreshing or restorative. The object of these classifications, is to direct the mind at once to something that will answer well a given purpose, without presuming to say that it is the best in the world for that purpose, or that it may not answer any other indication just as well.

11.—Sialagogues or Expectorants.

These are articles that combine the relaxing and stimulating characters, and give out their properties speedily. Such as *lobelia inflata, ptelea trifoliata, xanthoxylum fraxineum, arum triphyllum, ictodes fetida, apocynum, jeffersonia, diphylla, hydrastis canadensis, alium, scilla maratima, nymphaea odorata, macrotrys racemosa, sanguinaria canadensis, sugar*; or they may be made by combining stimulants with relaxants, as *cayenne and lobelia*, either of which alone is good. The character of the expectorant to be used, depends on the state of the mouth. If it is cold, clammy and foul, *cayenne, xanthoxylum*, or some other stimulant should be used; if parched and feverish, *lobelia, bitterroot* and the like. If full of sores, these should be combined with *myrrh, charcoal, slippery-elm and bayberry, or other astringents*.

12.—Emmenagogues.

These are articles that promote the menstrual secretion. They are, like all other alterants and stimulants of a permanent character. They should be

somewhat acrid and mucilaginous, or bitter; thus, adiantum pedatum (*maidenhair*), ginger, pennyroyal, hyssop, catnip, sage, apocynum, macrotrrys, tansy, rue (the two last are powerful and should be given in small quantities of the decoction). Friction about the pubic region, and electricity through it, are excellent means of restoring the function.

It will be observed that the same articles are put under different heads. They tend to promote all the secretions. The reason why they seem to affect one more than another, has been explained in the propositions, and is chiefly, the different facilities, with which they give out their properties, and because the system needs at the time they are given the peculiar action which they are said to promote. The vital power is always endeavoring to retain its equilibrium, and when that equilibrium is destroyed, to restore it. Any relaxant to loosen the tension, and stimulant to aid the sluggish organs will help to restore it when lost, whether the organ affected be in one part of the system or another. Hence, particular articles serve so many purposes, and hence too, all special treatment should be preceded or accompanied by general.

13.—Compounds.

The fundamental principles laid down, explained and illustrated in various parts of this work, show that no given compound can be suitable to all cases of disease, and direct the physician to make up at the moment, those that are suited to the indications of his case. Still, it is convenient to have some general preparations ready for ordinary cases, and these are easily made.

14.—Composition Powders.

Two pounds bayberry, one pound ginger, one pound white pond lily, one pound pleurisy root (*asclepias tuberosa*), two ounces of cloves, two ounces of cayenne.

A tea of this is good in all cases of cold, and chronic insensibility, and should be used freely, and aided by the vapor-bath to promote perspiration, and the other excretions and all the secretions.

Sumach bark, or leaves, or hemlock and cayenne, will do instead of the bayberry, xanthoxylum instead of the cayenne and ginger, the leaves and flowers of sage or catnip, instead of the pleurisy root.

In cases where there is great heat, internal and external, the stimulants and astringents above should be omitted, and catnip, ginger, asarum, etc., should be used. These may be used together or singly, and they will promote perspiration. The surface may be bathed meanwhile, with water pleasantly cool, until the heat is reduced and the pulse expands and becomes slower. If you want more action take the following:

Xanthoxylum, one part; pleurisy root, one part; bayberry, one part; ginger, one part; golden seal, one part; cloves, one tenth part; cayenne, one tenth part.

This is good in cases of cold, and a load of phlegm in the stomach.

Another.—Xanthoxylum, one part; pleurisy root, one part; bayberry, one part; hemlock, one half part; ginger, one part; nervine, one half part; cinnamon, one part.

The nervine may be cypripedium, scutellaria, asarum, ginseng, caraway seeds, fennel, blue cohosh, etc. Asarum and caraway are pleasant and as good as the others.

Dr. Thomson's Composition.—Bayberry, two parts; ginger, one part; cayenne, one eighth part; cloves, one eighth part.

This is good in cold, dyspeptic cases ; rather too astringent in fevers, especially inflammation of the stomach and bowels, in which cases the astringents and cayenne should be applied to the external surface, while articles of a more relaxing, antispasmodic character should be used internally, as the nervines, and sudorifics.

In cases of colligative diarrhea, and a closed surface, the compositions should be more astringent, as

Bayberry, two parts ; geranium, one part ; hemlock, one part ; gum myrrh, one part ; sumach, one part ; white oak bark, one part ; witch hazle, one part ; yellow birch, one part ; raspberry leaves, one part ; allspice, one part ; pond lily, one part.

Any number of the above, or any other innocent and powerful astringents, may be made into a composition ; and diffusive stimulants and aromatics should be added to promote the relaxation of the general system and a determination to the surface, while the astringents close the mouths of the internal absorbents. The stimulants and aromatics may be cayenne, ginger, asarum, xanthoxylum, pennyroyal, horsemint, hoarhound, peppermint, catnip, balm, hyssop, dittany, skullcap, cypripedium, etc., which act on the nervous system, producing general relaxation. When there is spasm of the alvine canal, and every thing is rejected from the stomach and bowels, the astringents and cayenne should be rejected from the composition and the nervines above, used. Thus : sage, catnip, balm, spearmint, bergamot (the mildest of the aromatics), cypripedium, skunk cabbage, ictodes or *symplocarpus fetida*, asarum, etc., should be used in both cases, the vapor-bath should always be applied, and the surface well washed with family (soft) soap, or warm water, while in the bath. When these fail to break up the spasmodic state, lobelia should be used freely.

Though all the above articles should be finely powdered to make the composition, yet all or any of them may be decocted and strained out, and the fluid used. If well preserved in the crude state, and bruised pretty well in a mortar just before using, they will be stronger, and every way quite as useful.

Dose.—Of the above articles except the cloves and cayenne, the dose of each or of any compound, for an adult is a common teaspoonful of the powder or its equivalent. Of cayenne about a fifth of a teaspoonful, of cloves half a teaspoonful. For a child of ten to fifteen years, one third, of this : for one of seven to ten, one fourth ; three to seven, one sixth ; one to three, one tenth ; under one, one twelfth. But these must be varied at the discretion of the practitioner, who must give what is needed and no more.

The dregs of teas should never be drank when the stomach is inflamed or much irritated ; but, when the internal canal is inactive, they may be used to advantage. Thus, when a person does not readily vomit or digest what is received, a dose of irritating or of nauseating dregs will aid the operation very much.

These principles will aid you at all times, and, when you have but few articles, in making up a composition to suit the indications. I have purposely avoided copying all the empirical compounds in vogue, because they are often inappropriate to your purposes, and no better than you might guess at, in any emergency, and because you can seldom get all the articles exactly as directed. The arrangement of a long list of articles for a compound, with a precise number of grains to each, has an imposing appearance ; but still, truth and benevolence compel me to declare that nine tenths of all this display, is mere humbuggery. I can not get my own consent to exhibit compounds for

any other purpose than as mere samples of what the practitioner should be able at any moment to prepare for the case before him.

The object of those compounds, is : 1. To provide for the practitioner, and especially, the family, a convenient medicine to use in a moment, to rouse the vital energies in their depressed state, when the article should be composed of strong diffusive stimulants and nervines ; 2. To gather up and remove the phlegm and canker, or stop the internal determination of the fluids, when astringents, stimulants and nervines should be used ; 3. To relieve internal congestions, when the articles should be chiefly stimulant and nerve ; 4. To remove inflammation and equalize the circulation, when nervines, anti-spasmodics and emollients should be used ; and, finally, to relieve complications of these conditions :

Examples of each.—1. Cayenne, ginger, pennyroyal, peppermint, asarum, cypripedium, scutellaria, mentha viridis, catnip, sage, etc.

2. Bayberry, sumach, hemlock, geranium, hamamelis, rubus (or others), cayenne, ginger, xanthoxylum, asarum, scutellaria, cypripedium, mentha viridis. These last are opposed to the first—so they *must* be. The former are astringents which act locally; the latter diffusives, which open the general system and the surface, which is as necessary to stop a diarrhea as to close the absorbents ; nay, the latter can not be done without the former ; and this can not so well be done without the aid of the bath.

3. Cayenne (if tolerated), ginger, asarum, peppermint, pennyroyal, ditany, sage, catnip, balm, hoarhound, motherwort, boneset, much like B 1, which is effected in the same way; though the strong stimulants are not so often tolerated.

4. Ginger, asarum, peppermint, sage, catnip, balm, slippery-elm, comfrey, basswood, mallows, arrowroot, etc.

5. Bayberry, hemlock, pleurisy root, golden seal, ginger, poplar, catnip, sage, scutellaria, spearmint, spikenard, sarsaparilla, sassafras, cloves, cinnamon, cayenne, etc.

The man who can not, from these principles and examples, compound medicines to suit the above intentions, is not fit for a doctor.

The object of the above compositions is, first, to remove, by the aid of foot bathing, or the vapor-bath, the first attacks of disease ; second, to warm up the system, and prepare it for an emetic ; third, to collect the phlegm and canker, and aid the system in removing it by courses, dejection, perspiration, etc.

15.—Compound Alterants.

The next series of compounds, are those termed alterants. These, as I have often said, should be composed of those articles that are calculated, by a slow and almost imperceptible, yet steady and permanent action, to promote and regulate all the secretions. They are to be used at once, in those mild forms of disease that do not require a course, and also between the courses in the severer forms, to keep up the action gained by the rapid treatment.

1. If all the secretions are equally balanced, the alterative compound should be mildly relaxing, and stimulating only, as follows :

Balmony, poplar bark, golden seal, burdock, alder bark, bark of wild cherry, camomile flowers, columbo root, ptelea bark, tansy, wormwood, hoarhound, motherwort, archangel (and any other intense bitter which has no peculiar tendency either to sweat or to physic, or to constipate the bowels), with cayenne, ginger, xanthoxylum, and the like, enough to stimulate to action.

2. But, suppose that the system is constipated ; then, whether used before

or after the course, with the above articles should be combined, golden seal, bitterroot, blackroot, boneset, butternut, and other laxative articles.

3. Suppose the patient to be troubled with watery dejections, with the above (No. 1) should be combined bayberry, hemlock, sumach, geranium, geum, raspberry leaves, witch hazle bark or leaves, grapevine roots, dewberry roots, or other astringents, with nervines, as asarum, cypripedium, scutellaria, spearmint, the bath, etc., to relax the general system, and the surface.

4. Suppose there be a dryness and coldness of the surface; then to the above neutrals (No. 1) should be added the sudorifics, as sage, catnip, balm, peppermint, pennyroyal, boneset, asclepias, polemonium, cayenne, ginger, xanthoxylum, etc., with frequent baths, and friction with stimulating liniments.

5. Suppose the surface be dry and hot, and the fever strong, the same (No 1) with No 4 (except the stimulants); and sponging with cool water, or vinegar and water, until the surface is cool and moist; then bathe and continue the alterants with cayenne if the action becomes too low, until the equilibrium is restored and maintained without them.

6. Suppose the liver inactive, the countenance sallow, and the bowels torpid; to the above (No. 1) add lobelia seed, bitterroot, blackroot, boneset, butternut (extract in pills), and use enemas of composition and slippery-elm and a little lobelia, and the bath.

7. Suppose the kidneys inflamed, to the No. 1 add the diuretics, mucilages, etc., and the bath.

8. Suppose the menses suppressed, add the emmenagogues.

9. Suppose the lungs stuifed, use the antispasmodics and expectorants, with inhalations from dropping on a hot shovel a vinegar tincture of lobelia, and cayenne, until the lungs have cast off their load, then use the antispasmodics and emollients.

In short, consider the nature of the case, and, if mild, adapt remedies directly to it. If you give a course and relieve the patient, give the same alterants afterward, that you would have relied on for a cure without a course.

16.—Tonics and Restoratives.

These must be composed of alterants, but they must be of rather a stimulant and astringent character. We might take the articles of No. 1, above named, and add to them the stimulants and astringents commonly used, as cayenne, ginger, xanthoxylum, bayberry, ptelea, cloves, allspice, nutmeg, cinnamon, sassafras, wild cherry tree bark, dogwood and the like.

Bitters.—The common plain bitters are made by combining two or more of the various bitter articles used in our practice, in such a manner as not to produce either relaxation or astringency. Say, poplar bark, golden seal, balmony, wild cherry, peach tree bark, black birch, etc. Put with these or others like them, cayenne, ginger, cloves, cinnamon, allspice, xanthoxylum, berries, nutmeg, etc., and sugar, and they become spice bitters.

The cloves, cayenne, or nutmeg, should not constitute more than one-twentieth of the whole mass, however it may be made. Some compounders of medicines put into these bitters as much Havana sugar as all the powders weigh; but this sugar can just as well be put in when they are used, and it is not so likely to attract moisture, and liquefy, as it does in warm climates. The various breads of life, "life powders," "woman's friends," "health restoratives," "life bitters," etc., among our botanic friends, consist of the bitter stimulants and laxatives above named and others like them, with astringents compounded often by mere caprice, "without the guidance of any

known therapeutic principle." These restoratives being innocent and active, happen to suit many cases of disease, and thus they get a great name, without any great claim of merit on the part of the compounder, who can not tell for the life of him, which article, or articles, in his *theriaca*, should have the credit of the cure.

Conserve of Hollyhock.—Hollyhock flowers (fresh blossoms), two pounds; pulverized loaf sugar, four pounds.

Beat the flowers to a jelly, in a mortar, add the loaf sugar, and beat again, until thoroughly mixed, then add: poplar bark, bayberry bark, golden seal, cloves and cinnamon, of each two ounces; of bitterroot and capsicum, each half an ounce, and of oil of pennyroyal or wintergreen one fourth an ounce, knead and bruise until perfectly mixed. Then keep in a mass, packed closely in glass or stone jars, and covered closely; or roll out into cakes, and dry, and keep in jars.

If the flowers have been dried, all the powders may be mixed together, and kept in a dry state, and used in powder or in water.

Woman's Friend.—If you double the balmony and golden seal, and add a pound of powdered gum myrrh, twenty times as much poplar, a pound of beth root (*trillium latifolium*), and a pound or two of unicorn (*helonias dioica*), you will have what is called "female restorative," or "woman's friend."

These compounds are both stimulant and restorative. If they prove in any case too astringent, add more bitterroot or blackroot; if too laxative, add hemlock, sumach, etc. If the urine continue scanty and high colored, add some one of the diuretics.

Another Restorative.—Peach kernels, balmony, golden seal, one part; capsicum, one fourth part. Mix the powders and take them in cold water.

For Indigestion.—Peach kernels and powdered gizzard skins, equal parts. The gizzard skins act like rennet. *Another:* Pills of dried ox gall, rolled in bayberry. The spice bitters, cherry bark, dogwood bark, ptelea bark, bitter-root, a strong decoction of either when cold, of any one or more.

Antispasmodic Compound.—Blue cohosh, asarum, cypripedium, ginger, scutellaria, ginseng, spearmint, equal parts. Make a tea, strain and sweeten, and add capsicum at pleasure, before drinking. Asarum and spearmint are among the best above enumerated. Lobelia is better than any of them.

Sudorific and Diaphoretic Compound.—Sage, catnip, balm, spearmint, peppermint, bergamot, polemonium; pleurisy root, boneset, hoarhound, horse-mint, dittany, pennyroyal—all or any of them. Make a tea, sweeten and drink freely. Use the bath.

Diuretic Compound.—Cedar and pine boughs, juniper berries, pumpkin and watermelon seeds, asparagus roots, mustard seed, horseradish roots, parsley, erythronium, queen of the meadow, poplar bark, gallium, all, or any of them. Make a tea, sweeten and drink when warm.

Female Relief.—Adiantum, leonurus, macrotrys racemosa, tanacetum, ruta, polygonum punctatum—all or any. Make a tea, sweeten, and drink. Aid by the bath, emetics and enemas, and by friction with the hand down the sacrum, the rectus abdominis muscle, and in the direction of the psoas muscles. Aid also with liniments, and electricity.

Compound for Constipation.—To the spice bitters, add one fourth as much blackroot, or bitterroot, and drink in a strong tea of boneset.

A better.—Eat unbolted wheat bread, chamoignon the abdomen, and constantly obey and encourage the calls of nature.

Another.—A pill of butternut and boneset extract, and cayenne, scented with oil of peppermint and rolled in slippery-elm.

Another.—Cold boneset tea, and cayenne—enough to effect the object.

Compound for Diarrhea.—This form of disease proceeds from many different causes, and its stages are so different, that no single medicine can be proper for all cases.

For simple diarrhea, proceeding from internal irritants, give a gentle cathartic (of blackroot and butternut extract, and a few drops of oil of pennyroyal), an enema and a bath, then the following:

Cloves and allspice, equal parts, a teaspoonful in hot water.

Or, a teaspoonful of bayberry, and hemlock, in a teacup of boiling water, strain, sweeten, add a teaspoonful of compound tincture of myrrh.

Or, a strong tea of the dewberry root, or of the common grapevine root.

Or, geranium root boiled in milk, or of sumach bark or leaves, or any other good astringent.

The vapor-bath should be used in all cases of diarrhea, to bring the action to the surface. In bad cases, it should be used both before and after the medicines.

In chronic cases, an emetic should be administered first, then an enema, then the bath. If the diarrhea proceeds from a recent cold, a pint of composition, ginger, or sage and ginger tea, and a bath will suffice. If it proceeds from mere general debility, as in the last stage of typhus or of consumption, the cleansing and toning of the whole system are indispensable.

Wine Bitters.—Any two or more of our bitter tonics, as balmony, poplar, golden seal, prickly ash, ptelea, etc., in good, pure, native wine.

When you wish to keep the bowels open, you may put in the laxative articles, as boneset, bitterroot, etc. When you would correct diarrhea, the astringents, as bayberry, sumach, hemlock. Or you may so balance these, as to use them all; thus, bayberry and golden seal, sumach and boneset, cloves and bitterroot, geranium and blackroot, etc., and this will often be better than the more simple, as it will act more generally in the system.

To know what effect your compounds have, take them yourself and give them to others in a healthy state. What they do under these circumstances, they will tend to do in diseased states, and their value in sickness may be estimated by their power to affect physiologically, the healthy organs.

Worm Powder.—(*See Vermifuges.*)—The bark of ptelea, butternut, bitter-root, melia azedarach, the boughs of the arbor vitæ, the seeds of chenopodium anthelminticum, and the roots of spigelia marilandica. All or any of them, bruised fine. A teaspoonful in a teacupful of hot water, sweeten with honey or molasses, for an adult; less for children.

Anthelmintic Oil.—Oil of wormseed (chenopodium), oil of olives, and castor oil, either alone; or cut each separately with alcohol, and unite them. A teaspoonful on an empty stomach.

A first rate Vermifuge.—The juice of arbor vitæ; a teaspoonful, and half as much salt.

Another.—A teaspoonful of oil of turpentine, a tablespoonful of milk, and a teaspoonful of honey.

Another.—Half a pint of strong decoction of comptonia asplenifolia, with milk and sugar, or honey.

For Tape-worm.—An ounce of bruised pumpkin seeds in a pint of warm water; sweeten and take one half, and after an hour, the other half.

A general Recipe.—The most nauseating bitters, the strongest gums, as myrrh, assafetida, turpentine; the essential oils, as the above; mucilages, sugar and milk, salt and physic; mix and use in small quantities, and continue for some days.

Liquid Preparations.—These are often more convenient than powders for prompt action, and should always be kept in vials.

Antispasmodic Tinctures.—1. A teaspoonful of lobelia seeds in a gill of common spirits, or good cider vinegar.

2. The above, with a teaspoonful of blue cohosh, one of valerian, and one of spearmint.

3. Number two, with oil of anise, twenty drops.

4. Tincture to saturation of any or several of the best of the articles under the head Antispasmodics, and give to an adult, a dessert spoonful for a dose, diminishing to five drops for an infant.

For speedy and powerful relaxation, use lobelia, spearmint, catnip, skunk cabbage, and other volatile articles. For more permanent relaxation, use boneset, bitterroot, motherwort, butternut, etc. Or lobelia and bitterroot.

Antiseptic Tincture.—Gum myrrh, half a pound; cayenne, one ounce. Put into three quarts of good cider vinegar or proof spirits, and let stand some six to ten days, in a warm sun.

Wash old sores with soapuds, then with the above drops, then apply the antiseptic poultice, of slippery-elm, charcoal and vinegar, or dregs of number six.

Astringent Tincture.—Powdered bloodroot, an ounce; alcohol, three times the measure. This is for bloodshot eyes, and for cutting off the morbid growth on the ball of the eye, also, for polypuses and proud flesh generally.

Another.—Same as the above, with one fourth ounce cayenne. This is for extravasation when the skin is not broken, as from bruises, etc. Keep the part wet with it all the time, until it becomes red, and free from all purple or sallow appearances.

Another.—Geranium maculatum in powder, an ounce; geum virginianum, an ounce; nut galls, an ounce; cloves, half an ounce. Put into half a gallon of proof spirits. To rub on lax tissues.

The same articles may be decocted and taken internally for diarrhea, after the stomach and bowels are cleansed by emetics and enemas, and the surface is opened by the bath.

Stimulating Tincture.—Tincture of cayenne, an ounce in a pint of boiling vinegar. For external application—on cold, inactive surfaces.

Another.—To a pint of tincture of capsicum, add half an ounce oil of hemlock; half an ounce oil of turpentine; half an ounce oil of cedar. For rheumatism, bruises, coldness and deadness, or paralysis.

Sirups.—*Cough Sirup.*—If the cough proceeds from dryness or mere irritation of the glottis, trachea or lungs, the very best is a simple infusion of lobelia containing as much loaf sugar as it will dissolve. A little asarum or spearmint in the infusion, covers the taste of the lobelia, and renders it pleasant, but does not injure the sirup. If the lungs are loaded with cold phlegm and inactive, a little cayenne should be added to the above sirup, until the phlegm is removed; then use again the simple sirup, or pure gum arabic, to calm the irritation.

The various nervines may be made into sirups for cough, but they are not so good as lobelia. There are many cases of coughing, which can not be relieved by any medicine, however suitable it may be for other cases. See "cough" in the glossary of symptoms.

Simple stimulating Sirup.—A teaspoonful of cayenne, and twenty drops oil of wintergreen or pennyroyal, in two fluid ounces of molasses.

Cholera Sirup.—Bayberry one ounce; golden seal, one ounce; poplar

bark, one ounce; xanthoxylum, one ounce; balmony, one ounce; cayenne, one ounce; cloves, one half ounce.

Boil in two quarts of water, strain, press and add half a pint of tincture of myrrh, and then an equal measure with the whole, of good loaf sugar, scald, skim, cool, cork up for use, and set in a cool place.

Dysentery Sirup.—Give a course of medicine, and a few mild cathartic pills, then the following:

A strong decoction of the root of blackberry (the low, running plant is the best), of grapevine roots, of geranium maculatum, of geum virginianum, of sumach or witch hazle bark, any or all of these, equal parts, add one fourth as much of compound tincture of myrrh, and sweeten with loaf sugar, or the best you can get, to the taste.

Sirup for Diarrhea.—Any of the above astringent articles, one or more. Make a strong decoction, and add as much by measure, of good sugar, scald and skim, put into stone jugs or glass bottles and keep in a cool place.

Sirups in General.—Sirups may be made of any articles that do not lose their virtues by boiling, which are, generally, articles that are not aromatic—that have no smell.

The process consists in reducing the article, root, bark, leaf or fruit, as the case may be, to a coarse powder, then boiling it. Some articles, as the herbs, will give out their properties in a few minutes, others will require an hour or two. When the virtues are obtained, which may be learned by straining the article, adding water to the dregs, and boiling again, you should strain, settle and drain off, then boil the clear liquid down to any degree of strength you please, not making it thicker than thin molasses, and add as much by measure, of good, dry sugar. If the latter is not pure and clean, it should first be dissolved in water, and an egg or a gill of milk added to a gallon, scalded, skimmed, and then crystallized again, then added to the decoction.

These strong decoctions may be put into an open tin vessel, and this vessel put into a kettle of water, which may be boiled around it, until the decoction is of the consistence of thick tar, and this is called an extract. It may be kept in tin boxes or earthen jars closely covered, and used in pills or plasters, or dissolved into sirups.

Infusions.—Inspissated Juices, or Dried Extracts.—Plants whose virtues consist chiefly in a volatile oil, as spearmint, peppermint, summer-savory, bergamot, anise, lobelia, etc., which pass off on boiling, can not be made into sirups. They must be used in infusions, that is, steeped in hot, but not boiling water, or put into cooler or even cold water for hours, and some of them for days; then the fluid strained and pressed out, and evaporated in the sun, when the sugar may be added. Or the green articles, if herbs or pulpy roots or seeds, may be bruised and pressed, and the juice evaporated from shallow glass or well tinned dishes, to the consistence of grained honey, and preserved in glass or tin, and used as directed for the extracts above.

Candies.—The fixed properties may be made into candies, by boiling away the sirups to crystallization, and shaping them while hot, or by mingling the powders with common candy while cooling, and stirring until it is so far crystallized that they can not settle.

Poultices.—As these are the means applied scientifically, according to physiological principles, to aid the vital force in its efforts to remove morbid matter from the body, they must involve six specific characters or qualities of elements, or properties: First, the property of relaxation; second, of stim-

ulation; third, of lubrication; fourth, of astringency; fifth, of porosity; and sixth, they must be chemically antiseptic.

The *first* class of properties is supplied by water, and by succulent and parenchymatous fruits, leaves, barks and roots of plants: as figs, cabbage leaves, purslain leaves, boiled turnips, carrots, parsnips, etc.; by any thick, spongy, watery fruit, leaf, bark or root which is not poisonous; by all purely bitter articles, as tansy, wormwood, ambrosia, etc., and still more by lobelia and the best antispasmodics. The *second* class of poultices must have, in addition to the relaxing agents, something stimulating or exciting, as ginger, cayenne, mustard, xanthoxylum, etc. The *third* must have mucilaginous substances, as flaxseed, hollyhock flowers, mallows, figs, purslain, slippery-elm bark, tilia or basswood bark, lily roots, any innocent article containing mucilage, and the greater the proportion of the mucilage to the whole mass the better. Mucilage, being dense and adhesive, not porous, dries away only from its surface, of course very slowly, and therefore keeps the poultice moist and soft a long time, and secures the part to which it is applied, from the action of the oxygen of the atmosphere.

The *fourth* principle, astringency, is contained in sumach leaves, hemlock, birch, cherry, oak, sumach, and other barks; geranium maculatum, heuchera Americana, marsh rosemary, and other roots, and its principle is tannin. Its use is to close the surface, dry up discharges, and compel the removal of morbid matter by absorption; a process to which I have already objected, though it is often apparently successful. Thus a solution of nut galls, alum, camphor, etc., a decoction of oak bark or alumroot will often, if used early, prevent suppuration; though I think that the cases in which it would produce this result, would be better treated, as well as with equal certainty, by the relaxing, stimulating and lubricating poultice; as more of the morbid matter would be removed *directly* from the system. This poultice should contain no mucilage nor stimulant, nor any more water than is necessary to favor its contact with the nerves of the surface. For this purpose, it must be often slightly moistened. I seldom use it. When the surface is too open, as in night sweats, in consumption, profuse perspiration after agues, etc., a solution of tannin and cayenne, or a vinegar tincture of these two, is very useful as a tonic liniment, which may be considered a general astringent poultice. But the vapor-bath, and thorough rubbing, with first dry cloths and then the hand, is better even here.

The *fifth*, and a very important principle in a poultice, porosity, is to enable it to absorb and remove out of the reach of a diseased part, all the morbid matter exuded, that it may neither be taken up again by the living vessels, nor spread further on the surface of the ulcer to prevent its easy granulation, nor disseminate its virus, nor especially be dried up into a scab which confines the matter within, irritates the part, prevents depuration and causes deeper corrosion. Corn meal, light bread, or any porous substance will fill this indication.

The *sixth* property of a poultice, which should always be secured for ill-conditioned, putrescent ulcers, cancers, etc., is the antiseptic, or the chemical neutralizer of its effete or worn out and suppurating or gangrenous matter. For this purpose, the mucilages, slippery-elm, the dregs of gum myrrh, after it has been tinctured in number six, etc., should be mingled with powdered charcoal, and applied often. Good cider vinegar is also antiseptic, and excellent to moisten the other elements. Cranberries and other acid fruits, are excellent for this purpose.

When the system is well cleansed by general treatment (see "Course

of Medicine, etc.), and the ulcer discharges nothing but pure coagulable lymph and serum, poultices may be laid aside, and a soft salve applied as a protector of nature in her healing process. But, on account of its easy application this is too often applied where the poultice should be continued. For it must not be forgotten that, in all cases in which the system or the part adjacent to the ulcer, is full of canker, the mollifying and absorbing poultice should be continued until the ulcer is fully healed.

Salves.—These are external applications, the chief use of which is, first, to protect the injured part from the action of the atmosphere, and secondly, when the diseased tissues are not sufficiently active to stimulate them to the right degree. The salves should be, *first*, *soft* that they may not impede the motion in the part; *secondly*, exciting to set the vessels in motion, and *thirdly*, adhesive to prevent the contact of air. The softness is secured by soft oils, as sweet oil, linseed oil, neat'sfoot oil, goose oil, fresh butter, etc., which may be about right for winter, and hardened by mutton suet, tallow, beeswax, resin, etc. The second, or stimulating property, is found best in the gum resins, as balsam of fir, and pure turpentine. They should always be soft, and to render them loose and light and mildly exciting they may involve the properties of leaves and barks of vegetables. Thus:

Take a quantity, say a handful of the bruised leaves or of the green bark of the sweet elder (white pith), *sambucus niger*, put it into water enough to cover it well, say a pint, and scald it so as to obtain the strength. Strain and press it, and put into it four ounces each of mutton tallow and unsalted butter or sweet oil; simmer these together until the water is all out, which will be known by its ceasing to boil or sparkle. Then put in a small tablespoonful of balsam of fir, stir it well, for three or four minutes; take it from the fire and let it cool. This is one of the best of salves. If it is too hard for any case add more oil; if too soft, more tallow or a little beeswax. If the sore be inflamed, it may be too stimulating; then add more of the soft oils and suet. If the sore be cold, inactive and unwilling to heal, add more balsam or a little cayenne, and you fit it for the case. No one prepared salve can suit all cases. The conditions of each must be known, and the salve must be adapted to it, *scientifically*, according to those conditions, and the principles they involve. Nothing should be done by "guess." The man who can not *observe* and *think* (and adapt things to each other according to their nature), is unfit to be a doctor. Almost any parenchymatous, succulent or mucilaginous leaf or bark that is good for a poultice, may be properly incorporated into a salve. Some plants are poisonous on one part and innocent in others, thus: the May-apple leaf is poisonous, its root is a drastic physic, and its fruit good food. *Stramonium* seeds are deadly poisons, but the leaves appear to be innocent, and to make good poultices or salves. They are bruised fine in a mortar, and simply simmered with lard; or they may be prepared as directed for elder leaves or bark. The testimony in favor of this salve, from those in whose judgment I have great confidence, is too strong to be lightly regarded. But as I have seen children terribly poisoned by eating the young fruit, I am not disposed to venture so near it. The elder salve is equal to any other, and perfectly safe.

The object of salves being to protect the injured part from the action of the atmosphere and to favor the healing process, they should never be harder than is necessary to prevent them from "running away." Pure tallow or beeswax is too hard. It must be softened by the fluid oil, as sweet oil, or at most by goose grease or soft butter.

Common Healing Salve.—Equal parts of rosin, beeswax, mutton suet,

unsalted butter, or sweet oil, one fourth common white pine turpentine, and one eighth of balsam of fir. Simmer the whole together until well incorporated. If too hard, add more sweet oil, if too soft, more beeswax or rosin. If too stimulating, more suet. If too "drawing" (stimulating), add more beeswax and oils; if not stimulating enough, more balsam and turpentine.

Green plants may be bruised, or wilted in hot water, and applied externally; thus elder leaves, tansy, wormwood, etc., applied to swelled breasts, are powerful to relieve the swelling and inflammation.

Adhesive Plaster.—Hemlock gum (purified) warmed and spread upon leather, is a mere sticking plaster. Sprinkle its surface with powdered lobelia seed, cayenne, or any other article you want, warm it, and in a little while it becomes medicated. Equal parts of rosin and crude turpentine, or three of burgundy pitch, and one of turpentine, make a good base.

Strengthening Plaster.—To the strong decoction of mullein, burdock, boneset, spikenard or other alterative article, or articles, add the base of the above plaster, and boil down to the proper consistence, work it like wax or candy, and spread for use.

Tincture.—To the coarse powders of any of the medicinal articles, add three or four times as much rye, corn, juniper, peach or cherry spirits; or press the herbs closely into vessels, and just cover them with the spirit, let them stand from three to twenty days, press out the liquor and bottle it up.

For Liniment.—Make strong decoctions of the plants, and evaporate them in the fixed oils, as sweet oil, linseed oil, fresh butter, neat's foot oil, etc. Or obtain the oils by distillation, use each alone or mix them if compatible, if not, cut each with alcohol into an essence, then mix them and use.

Concentrated Remedies.—As so much is said about "the superior virtues and conveniences of the concentrated remedies" lately introduced into the reformed *materia medica*, it may be well to give the general reader, as well as the student of medicine, a few definite ideas on this subject.

The word "concentrated" means condensed into a smaller compass. We are told that the concentrated remedies contain, in a compact form, more convenient and pleasant for use, and more efficient in action, all the medicinal virtues of a compound substance.

This may seem plausible to those who are ignorant of the processes of concentration; but it is *not true*. In the first place, there are no other means of concentrating or condensing a substance, than simply that of pressure. If, then, by concentrated remedies, is meant, remedies compressed into vials by pressure, so as to get into them more than they would otherwise receive, the expression is appropriate. But this is not the case with what are called the concentrated remedies. They are condensed by removing certain parts supposed to be useless, or comparatively so, and retaining, in a more compact form, those that are supposed to be the most actively medicinal.

But, if the article thus treated is considered a medicine, we do not concentrate that medicine by thus treating it. We only take from it a portion which may have, but seldom has, all the medicinal properties of the whole. For example, if we grind wheat and do not bolt it, but eat the flour and the bran together, and unbaked, we have of the wheat all the substance of which our bodies can make use, and it produces, in us, its specific, natural effects. If we bolt it and eat the flour alone, it makes us constive; if we eat the bran alone it acts too much upon our bowels; if we bake it before eating, we disengage by heat, that is, chemically remove some of its substance, and alter its nutritive and its medicinal properties. If we put yeast with it before baking, we still further change its composition, or the proportions of its

oxygen and carbon to its hydrogen, and, of course, its nutritive power. If we bolt and bake one loaf of the fine flour, and another of the bran, how different the composition! The bran loaf contains the sugar and fibrin, and the fine loaf the starch and albumen, and how different the properties of these! Will the "concentrator" (the baker) undertake to prove that either loaf has all the nutritive properties of the wheat? Will he venture the assertion that even the raised and baked white or brown loaf has "all the nutritive properties of the wheat?" Not if he is *intelligent and honest!* But he has as good reason to say so, as the concentrator of medicines, who said by a similar process, he obtained all the virtues of a medicinal plant.

Now, suppose we ferment and distil the wheat, we separate its substances or elements, and form, of some of them, a new compound, called alcohol. Will either the alcohol or the slops remaining, contain the elements of the wheat, or produce its legitimate effects on the body? We all know that they do not; and suppose that we mix again the bread and the alcohol—crumb the one into the other, and eat it! will the compound produce the same effect as the wheat? Certainly not, for it has lost some of the element of the wheat, by the chemical processes of fermentation, baking and distillation. Suppose we could collect all the ingredients and put them together and eat them, would they produce the same effects as the wheat? No, because they are mechanically, not chemically united, and therefore would act independently of each other. The alcohol would make the eater drunk, just as quickly, if he took it with the bread as if he drank it by itself. Suppose we could chemically unite their material ingredients again, would the artificial compound produce the same effects as the natural? No, because, even then, they would want one of their most important ingredients, the *vital force*, which gives to them and all vegetable substances, their character, as distinct from minerals; and, lastly, we can not apprehend this vital force, and combine it with the other elements. But we never can, even chemically, combine the elements thus separated! and these facts completely uproot and explode the doctrine of the great Liebig and all the little ones, that the chemistry of the stomach—the circulation, secretion and excretion of the fluids, is the same as that of the crucible of their laboratories.

Let me give to little boys and girls an experiment that will enable them to learn and understand this philosophy, and, by it, to refute all the errors of the learned on the subject.

Take a large Irish potato, grate it fine into a quart of clean cold water. Wash the gratings for five minutes in the water, and then strain the solution through a fine cloth. Let it stand still half an hour; then pour off all the water. In the bottom of your vessel you will find a solid precipitate, called starch. The scrapings are the fibrin of the potato. Now put the starch into a quart of clean, cold water, set it on the stove and stir it constantly, until it has boiled from two to five minutes. Put also the gratings into a quart of clean, cold water, set them on the stove and boil them. Now see if either of these "cooked dishes" is the same as boiled potatoes, or any thing like them. Make some more starch and try to mix the starch and the gratings together again and form a potato! Mix the cooked starch and the cooked gratings, and see if you have even good potato mush! In this simple experiment, you have used that almost universal chemical solvent, water, to decompose the potato, by which process you have constructed different compounds which possess properties entirely different from those of the original; and all the science and art in the world can not enable you to restore the original. You perceive therefore that you possess the power to destroy organized compounds,

but not to construct them. You should, therefore, be sure, before you destroy a natural compound, that you can make of its elements an artificial one better, *for some purposes*, than the natural, which you often can do; but it will be not a concentration of, but an extract from the natural. So of the concentrated remedies of the *materia medica*.

Again: gum myrrh is composed mainly of resin, mucilage and bitter extractive. If we put it into water, we get the mucilage and the bitter extract, but not the resin. If we dissolve it in alcohol, we have the resin, but no more of the mucilage, and of the bitter extract, than the water in the alcohol will dissolve.

If we dissolve it in common spirits or dilute alcohol, we get the mucilage and the resin; but still there remains something called "extractive" (more properly residuum), which neither the alcohol nor the water will obtain. Make this into pills and swallow them, and the gastric juice, which is a more powerful solvent than water or alcohol, will obtain from it some other substance than either mucilage, resin or bitter extract. When each of these substances is swallowed separately, the effects on the system are very different. When they are all swallowed together, they so modify each other's action, that the general effect or result is quite different from the effect produced by the action of any one or two of them.

If we chew and swallow the leaves of peppermint or pennyroyal, we get into our stomachs the whole article. If we drink only a tea of it, we get a part of the article, consisting of that which is dissolved by water, and lose the fiber and a portion of the volatile or aromatic oil. If we distil the plant, we get the oil only, and lose the extractive and fibrin.

We cut the pine tree and there issues from it, a substance which we call turpentine. It is an extract from the pine, but not a concentration of it. We burn the pine timber covered with earth, and this substance, blackened a little with carbon, runs out, and we call it tar. It does not smell, taste, nor act on the body as turpentine does. If we decompose the tar, we find that the proportions of carbon, and hydrogen, which constitute chiefly the turpentine, are changed by the action of caloric, and by the oxygen in the draught of air that passed through the pit. Again, if we take the pine turpentine and distil it, we leave, in the vessel, what is called resin, while we evaporate and condense a fluid called spirit or oil of turpentine. Are all these different substances "concentrations" of the pine tree? Just as much so as leptandrin, podophyllin, hydrastin, cornin, salicin, cypripedin, etc., are concentrations of leptandra, podophyllum, hydrastis, cornus, salix, cypripedium, etc.

I perceive by an article in the Eclectic Medical Journal, that a certain somebody who, having been so smart as to perceive that one extract is not the whole of a plant, has obtained all the extracts he could from the cerasus serotina, and mixed them together, and now he cries Eureka—I have found out the art of concentrating all the virtues of the whole plant? though he still leaves a large residuum, and finds that his artificial concentration is not the same as the plant! Yet he either ignorantly or dishonestly palms off his united extracts, as the concentrated sum or aggregate of all the virtues of the plant! and charges his superiors with dishonesty, because they tell the truth and act accordingly.

I do not say that these extracts (not concentrations) are any better or worse than the substances from which they are obtained. I only say that they are different compounds, and therefore they possess different properties which must be ascertained by physiological experiments on the healthy constitution.

They may prove better or worse, but they are not the same. These illustrations may serve to show how much confidence can be placed in the declarations of the concentration manufacturers, who never used them in practice, that "these preparations will act so and so, and will produce such and such results;" and will guard us against the empiricism and quackery of doctoring the sick with any agents until their powers are well tested on the healthy; instead of using the natural agents which have been so tested, and can be safely trusted.

But I shall be told that they have been tested, and found to be not only in some cases different from the substances treated to obtain them, but, in most cases preferable. I doubt whether they have been tried sufficiently to justify this assurance. It requires many and careful experiments on the healthy as well as the sick, to elicit and establish the true character of a remedy. Still, I grant that an extract *may* be, for certain purposes, better than the whole from which it is taken. For example: balsam of fir, is a gum resin. The gum element is mucilaginous and therefore protective and soothing to a fresh wound—acting like slippery-elm. The resinous element is stimulating (as spirit of turpentine) and would if applied to the same wound, stimulate it too much, and make it painful, excite inflammation and an excessive and unnecessary secretion of coagulable lymph. The resinous portion of the balsam therefore, is the best for old inactive ulcers that need stimulation, while the mucilaginous is the best for parts already highly irritated. Yet it is evident that a combination of the two elements, as in the natural balsam, may be better for some cases, than either element alone. Experience has indeed taught us that this balsam is too stimulating for the great majority of cases; hence we modify it by adding sweet oil, fresh butter, etc., and harden it with beeswax and mutton suet, (see healing salve). It is thus evident that, by decomposing some agents and compounding others, we may often obtain remedies better for special purposes, than are the substances from which they are abstracted, or of which composed. So that I do not object to a scientific and judicious pharmacy. On the contrary I most cordially approve of it, and have always practiced it as far as in my judgment, the case required, and I recommend to others my example; that is, to learn to prepare remedies which their cases require, out of the best materials at their command. But, instead of decomposing gum resins for their elements, they may better use the mucilage of plants for the gum, and cayenne or ginger for the resins; and I especially enjoin upon them the advice, never to put into a preparation nor to use in practice a single agent which they do not clearly see is needed there. If they follow this rule, their preparations will be exceedingly simple, and if judiciously administered and applied, they will be as efficacious as they are simple. I have carefully tested the most of the "remedies" in vogue that had not been proved to be decidedly mischievous; but I have relied, in my most critical practice, on but very few agents. I can cure more cases and worse ones, with a dozen good natural agents, than any other man can who habitually prescribes a hundred artificial preparations. So I can cure more cases when I use these dozen remedies in their simplest forms, than any other man can who uses a majority of them in the most of his prescriptions; or who "concentrates" them all, before he uses them.

I approve of a scientific and judicious pharmacy, because it enables us to separate that which we want from that which we do not; and to obtain what we want from the sources within our reach, and, in all cases, to practice therapeutics with judgment and success. And I advise every one to study and practice the pharmaceutic art, or that of preparing medicines on scientific

principles, adapted to the indications of disease ; and for these purposes plain and ample instructions will be given presently.

On the other hand, I disapprove of the hypothetical, injudicious, charlatanic and often mischievous preparations, of the hyper-pharmacy of the day, because,

1. It is not governed by scientific principles.
2. It is called what it is not—concentration—and is therefore deceptive.
3. The materials are often injured in the preparation.
4. Inferior materials are often used.
5. The good materials are adulterated for gain.
6. The processes are kept secret to establish monopoly.
7. It is calculated to keep the practice in the hands of a few “educated physicians” and apothecaries, and to prevent the masses of the people from doing what God intended that they should, namely : from learning how to prevent and cure their disease, as they do their hunger, and to save their lives and health, from the ravages of pestilences and the still greater devastations of scientific quackery.

Proofs of the above statements.—1. All the *curative* operations on the body within the reach of art, are performed by relaxation, stimulation, lubrication and contraction. As disease is a derangement of the equilibrium of these conditions, it can never demand, in the same prescriptions, agents calculated to correct them all. But many of the vaunted compounds of the “concentrators” contain relaxants, stimulants, emollients, and astringents, and are therefore unscientific.

2. The preparations called concentrations are only extracts from other substances, and therefore deceptions—to the ignorant.

3. They are frequently burnt and ruined in the process of evaporation.

4. If a simple remedy in its natural state, is presented to a purchaser, he may detect its quality and not be deceived. But if any miserable moldy trash be “carefully prepared,” and as carefully labeled and sealed “leptandrin,” or any other “in,” five cents worth of it may be sold to the “green-horn” for seventy-five cents, and given to a patient whose “disease proves incurable,” and no one but the manufacturer is the wiser or richer for it, and this trash *may* be used when no better is at hand or can be obtained.

5. The old school are constantly complaining of adulterations of their medicines, in the substitution of poor, cheap materials for good ones, by procurers, merchants and apothecaries, for the sake of gain (see report of Dr. Tom O. Edwards, in Congress), and I do not know that reformers so differ from others, in their moral constitutions that they can be trusted where allopathists fail, while I do know that, where so wide a door is open for profitable deception, somebody will enter it.

6. The process being kept secret, few persons can prepare the “concentrations,” hence those few must find it always difficult and expensive, and often utterly impossible to obtain the requisite materials. They will use poor articles, because they can not obtain enough that are good to supply the demand. The ignorant masses must do without medicine, because they have been persuaded to neglect nature’s pharmacy, and to purchase and rely upon the artificial extracts and compounds, prevented from obtaining and using the simples that grow at their own doors. Thus a monopoly of pharmacy is established for the benefit of the few, which deprives the many of the God-given right to prepare their own medicines and preserve their own health and longevity. It hides under a bushel the light which should be spread over all that are in the house. If they who “concentrate” or extract

the medicines will give the means and processes by which they do it, that others who choose may extract for themselves, I will approve of their course and commend their example.

I here give the most convenient method of concentration or extract to those who are not extensively engaged in pharmaceutic operations.

The means by which the most of the "concentrations" or extracts are made, are the several solvents, water, alcohol, and oils. I have already shown how water dissolves mucilages, and bitter, acid, alkaline, anodyne, saccharine and various stimulating and other properties: and how alcohol dissolves the most of these, with resinous substances, and when so dissolved, removes them by straining, precipitation, etc., as in the case of the potatoe starch, etc.

The "concentrators" then, reduce the substances to a powder, or a paste if they will not admit of this, and then dissolve them in one of these solvents; and separate the solutions from the mass, by settling, straining or filtering, and then evaporate the water or alcohol from the material in solution.

To remove all the solvent, and not to burn the extract, they boil it until there is danger that the latter will adhere to the vessel and burn, when they put it for completion, either in a sand bath, or in a vessel in another vessel of water, as glue is dissolved by mechanics in a glue pot. In this manner all the water or alcohol in the vessel can be removed, without burning the residuum; but leaving it either a dry powder, a hard cake, or an adhesive, unctuous substance of something like the consistence of paste. The former can be preserved in vials; the latter can be rolled into pills or put into tin boxes, or little earthen pots for preservation. If the solvent be water, the evaporating vessel may be large and shallow; but if it be alcohol, the solution should be put into a still, and the still into a kettle of hot water or in a sand bath, and thus, by the distilling process, the alcohol will be preserved for future use in the same way. Ether, being capable of dissolving some substances that alcohol can not, is used in the same way, and also preserved by distillation.

Certain combinations of the elements of plants, are obtained by the use of acids and alkalis as solvents; but these processes are too intricate to be applied by the general reader or the heads of families; and as the results are of doubtful value, I shall not detail them here. But,

The distillation of the volatile oils, is so simple that almost any one can effect it, and the oils are so valuable that all should be able to obtain them. It is effected in the same manner as the alcohol is distilled from the solutions before named. The herbs, or other substances to be distilled, are put into a small still, with water, and the heat raised to a degree sufficient to disengage the oil, but not to boil the water. The oil passes through the cooler and falls into the receptacle, as the alcohol does.

Oils are solvents for some substances, particularly resins. Put your hands into tar, or balsam of fir, turpentine, etc., and they will soon be coated with the resin so that you can not remove it, even with soap and warm water. But rub them all over with any soft oil, as goose grease, neat's foot, lard oil, or even lard or butter; and soon the tar, pitch, etc., will all be loose, having combined with the oil. Now, a little soap will unite with this last compound and, by the aid of water, remove it altogether from the hands. In this manner India rubber has been dissolved in linseed oil, and combined with cayenne and other substances in liniments. So the fixed oils are solvents for many of the virtues of medicines. Thus cayenne may be put into sweet oil, lard oil, or the oil of cream or butter, to make a stimulating liniment, which

will excite action of the surface without producing so much smarting as if it were prepared in alcohol.

Lastly, good cider vinegar is a good solvent for the properties of some substances, particularly the acid. Hence, an ounce of cayenne in a pint of vinegar makes a first rate stimulating liniment for the surface. But vinegar must not be used to obtain the alkaloid principles of plants, which it neutralizes. If you tincture lobelia in vinegar, you nearly destroy its emetic or alkaloid property, and, of course, its relaxing and nauseating power. This is the reason why acids in the stomach check its action, and must be neutralized by soda or some other alkali, before emesis will take place.

The practitioners and heads of families who do not wish to pay for good "concentrated medicines," many times their value, as well as often to obtain those that are good for nothing, will do well to study the preceding remarks on the processes of "concentrations" and extractions, and to prepare for themselves whatever remedies they need, from the elements almost everywhere attainable. They can also prepare more than they want of some that are plenty, to be exchanged for others that are rare.

Antidotes to Poisons.—In chemical processes, alkalis neutralize acids, and acids neutralize alkalis. Either the strong alkalis or acids alone are poisonous to the system. Of course, if you get an article of either of them into you, it will be well to neutralize it with some one of the others, and this can be done, provided you can get the latter into contact with the former before either has an opportunity to exert its poisonous influence on the system. While the poison is in the stomach, or on the surface, you may reach it, but even here, there is danger that you will not give the proper dose, and if you give more or less, the one in excess will still do more or less harm. Therefore,

When the stomach is sour, dissolve in warm water, or put into a tea, a piece of soda, of saleratus, or of potash, as large as a pill a quarter of an inch in diameter (for an adult), in half a gill of warm water, and swallow it. If this relieve the symptoms of burning and sour eructation, do not repeat it; but, if they continue, give half as much more, and, if they still continue, give doses still less, till they cease. When any of the acids are taken in a concentrated state, the doses of the alkalis may be much larger; or when the alkalis are taken, the acids must be taken in a diluted state, as directed for the alkalis. When potash is to be taken, it is often taken in the form of a weak ley (or a strong tea) of hard wood, as hickory ashes, say a quart of ashes to a gallon of water.

Calcined magnesia, prepared chalk, and lime water, are given for this purpose; but I do not use them—though I do not think them dangerous, but believe them to be useful, particularly the magnesia, which opens the bowels gently, as well as neutralizes the acid. The ley of hickory ashes was Dr. P. S. Physick's great remedy for dyspepsia, and is very good as one among many means to be used, though very liable to be abused.

But this mode of neutralizing poisons can not be practiced when the virus has become extensively diffused through the system.

Hence, various articles which, by their relaxing and stimulating power—that is, their alterative influence—have been known to remove certain poisons, are at once set down as antidotes to those particular poisons, and sought after and administered, only when those poisons have been received, until, by mere accident, it is discovered that they are equally good to remove other poisons, and forthwith a long list of powers is arrayed in their favor—though, in fact, all their effects are produced by their relaxing and stimulating influence, and

may be just as well produced by a multitude of other similar articles. For example:—

It has been discovered that cayenne is a first rate antidote for opium and for paralysis (B. M. and S. Journal); but those sage discoverers do not discern that this article is equally efficient for sedation or paralysis from any and every other cause, and that a hundred other articles, such as ginger, xanthoxylum, pennyroyal, peppermint, sage, and other warming and diffusive stimulants are just as good in proportion to the degree and permanency of their power. Hence, instead of sound fundamental principles illustrated by a sufficient number of remedies suited to those principles, we have our books and teachings filled up with long lists of arbitrary symptoms, called diseases, and empirical prescriptions for each of those symptoms or their causes, without any other reason for either the symptoms or prescriptions than simply that the writer or lecturer has seen, heard, or read of such things—that he has used such and such articles and found them good, and assures the reader or hearer, that he will find them so! This kind of medical pettifogging is the business of little minds—of men who, unable themselves to perceive great, fundamental, governing principles, and to carry them out in practice, are continually harping about the medical scheming and hypotheses of those who are able to see an inch before their noses, to understand the laws of physical action, and to follow them in practice. Those narrow-minded sticklers for specifics, unable, for want of principles and discriminating power, to make, except by accident, any discoveries themselves, are constantly gathering both the real and the "*false facts*" of others—that is, the facts rightly and those erroneously understood—and jumbling them together in one common mass of stimulants and sedatives, good medicines and poisons; and this they call the selection of the remedies of all systems, or ECLECTICISM; and all the philosophy they have to support it with, is "enlightened experience" [accident]. Men counted learned have said so—they have tried it, and it is so—and you may try it, and you will find it so! and this is called Science. But you will pardon this digression, and I will not leave you in the fog and smoke of empiricism.

Experiments have shown that many vegetable substances which seem in themselves quite bland and harmless, are antidotes to various poisons. Thus the scutellaria is said to be a remedy for hydrophobia, the alisma plantago and the polemonium reptans for the bites of serpents, lobelia for the sting of insects, the quivering flesh of a just slain fowl for a poisoned wound, etc., iris, sarsaparilla, and lobelia syphilitica for syphilis, etc. Very well, so they are good, but why? because they are permanently relaxing and stimulating; they depurate the whole system and therefore each one will do just as well for all the above viri, as it will do for any one of them. That which has the relaxing, lubricating or emollient properties the most accurately balanced, and permanent in their effects, as the alisma, the polemonium, the iris, the sarsaparilla, the aralia, the menispermum, and, I may add, the macrotrys, the jeffersonia, the leontodon, and even a compound of cayenne, lobelia seed, and apocynum, will answer just as well.

MATERIA MEDICA.

I HERE insert cuts of some of our most valuable medicinal plants, with a more extended description of their botanical characters, and their physiological qualities, than I have heretofore given; to enable all who will, to gather and prepare them for their own use or for exchange. I commence, according to the order of nature, and their usefulness in the removal of disease, with the antispasmodics and nervines; the most prompt and powerful of which is

1.—*Lobelia Inflata*—(Emetic Herb.)



CLASS, PENTANDRIA; Order, Monogynia, Natural Order, Lobeliaceæ.

Genus, *Lobelia*.—Calyx five-cleft; corol irregular, often irregularly slitted; anthers cohering, and somewhat curved; stigma two-lobed; capsules two or three-celled, opening by a pore at the side; seeds, many, minute.

Species *Inflata*.—Branching, rarely simple, very rough, hairy; leaves egg-shaped, sawed; flower branches leafy; capsules or seed vessels inflated. This

is a biennial plant. It grows from twelve inches to four feet high, bearing small, light blue flowers slit on their upper sides, borders five-parted, flowers from July until the frost comes. The leaves are sessile or clasping. The stem is angular or furrowed, very rough, and the branches are covered with leaves to their extremities, with flowers seated in their axils. The cut is a tolerable representation of some of its many forms. It exhibits this appearance in close fed pastures, by the open way side, and wherever it does not grow very fast. In shady places its structure is more delicate, its leaves, branches and stems are much longer and more numerous, etc.

I have used this plant much in practice, and written many an article on its properties and uses, and in its defense against its enemies. Nor do I now see the least reason to retract any remark I ever made respecting it. I refer the curious reader to the following articles : Lectures on Obstetrics, pages 107, 111 and 115, 117. For its defense, see Recorder, volume iii, page 4 ; see also, pages 117, 199, 209, 244, 288, 380 (116) ; volume iv (125, Waterhouse on), 205, 344 ; volume v, pages 173, 251, 291-'2, 315, 330, 334, 384, 388, 402 ; volume iv, page 227. The reader who will carefully peruse, every article to which reference is here made, will be richly repaid for his trouble. Of course I am responsible only for what I wrote myself.

I remark here, that its prominent and uniform characteristic, is its power to relax muscular fiber, which it seems to effect through the medium of the nervous system. It is the most powerful, innocent and valuable antispasmodic with which I am acquainted. It is of the utmost value to remove or relieve directly, rigid muscular contractions of every description and locality, and to aid in their cure, indirectly, by the removal of the morbid causes. And, on account of the speed, extent and volatility of its action, it is unquestionably the best emetic ever yet used. So long and successfully have its virtues been tested, and so good and only good have they uniformly and invariably proved, that its action in these respects, has become as well defined and firmly settled, as any physical action in any other department of science : Yes, when I administer lobelia to organs that still possess their vital power, I as confidently expect to see the result for which I give it, as I do to see, each morning, the light of the rising sun. It is very certain that, while lobelia relaxes the muscular tension, it does not, in the least degree, impair the power of respiration, digestion, absorption, circulation or secretion ; on the contrary, when used judiciously, by opening the contracted pores and loosening obstructions, it materially aids all these processes. The breathing is, indeed, sometimes hurried and sometimes catching, and the quickness of the pulse is sometimes diminished for a time, but the final result is only good ; and these functions are proportionably increased in extent and power, as are the vibrations of a pendulum by extending the wire.

Lobelia should not be considered the curer of disease, but the preparer of the way for the removal of obstructions. The actual removal of these obstructions must be effected by the action and reaction of the organs, aided or not by stimulants. This should be particularly regarded in the treatment of fits, asthma, cramp, croup, hooping cough, lock jaw, angina pectoris, tic douleuroux, and all other nervous affections in which high excitement produces alarming derangement of vital action. (See advice on the treatment of these forms of disease, in the several genera.) Inattention to this fact in relation to lobelia, and want of knowledge of the causes of those affections, have retarded or defeated the object in the treatment of them, by some of our best practitioners. Too much attention can not be given to this subject. The properties and uses of an article so generally employed in medicine, however

harmless it may be, should be thoroughly understood, that we may be able to derive from it all the good which it is capable of effecting.

2.—*Cypripedium*.—(Umbil, Ladies' Slipper.)



CLASS, GYNANDRIA; Order, Monogynia; Natural Order, Cypripediæ.

Genus, Cypripedium.—Calyx colored, four-leaved, spreading; corol none (some consider the calyx a corol). Nectary, large, inflated (resembling a lady's shoe, whence its name), style, with a terminal hole, and petal-like appendage on the upper side.

Species, Pubescens.—Flowers yellow, appearing early in the spring; stem leafy; lobe of the style, triangular-oblong, obtuse; outer petals oblong-ovate acuminate; inner one very long, linear contorted; lip compressed, shorter than the petals; root biennial, twelve to fourteen inches or two feet high (moccasin flower, Noah's ark).

There are several other species of this plant which much resemble it in appearance, and probably their properties are similar in nature, if not in degree. Those that are used, so nearly resemble this in the appearance of the flower, that they will be easily recognized by comparing them with the cut. The root only is used. It much resembles the roots of some grasses. It consists of a tuft of numerous branches, none of which are more than an eighth of an inch thick.

This article is considered an invaluable nervine. I have used it much in connection with other medicines, and have reason to believe it has a good

effect in allaying nervous excitement, after the offending cause is removed, though I have found it of little use while the system was laboring under the influence of that cause. It is bitter, somewhat stimulant, and generally considered, by patients, among the most nauseous and disagreeable to the taste of all our medicines. I have had some very nervous patients who preferred to suffer until the cause was removed, rather than take the nervine, though there is nothing in the effect that is disagreeable to any one. Others, however, do not dislike the taste. Certainly it is perfectly harmless, and I have seen instances in which I had reason to believe it produced a very happy effect.

Collect the roots when the stalk withers in the fall, wash and dry them, and pulverize only a little at a time, for use.

Rafinesque says, *Medical Florist*, page 143, "It is with some satisfaction that I am enabled to introduce, for the first time, this beautiful genus into our *Materia Medica*; all the species are equally medical. [I doubt it.] They have long been known to the Indians, who called them moccasin flower, and were used by the empirics of New England, particularly Samuel Thomson. Their properties, however, have been tested and confirmed by Dr. Hales of Troy, Dr. Tully of Albany, etc. The most efficient is the *C. lutuem* [the one we have described under the name of *pubescens*], the next *C. acaule*, and last *C. spectabile* and *C. candidum*. * * They produce beneficial effects in all nervous diseases and hysterical affections, by allaying pain, quieting the nerves and promoting sleep. They are preferable to opium in many cases, having no baneful nor narcotic effects."

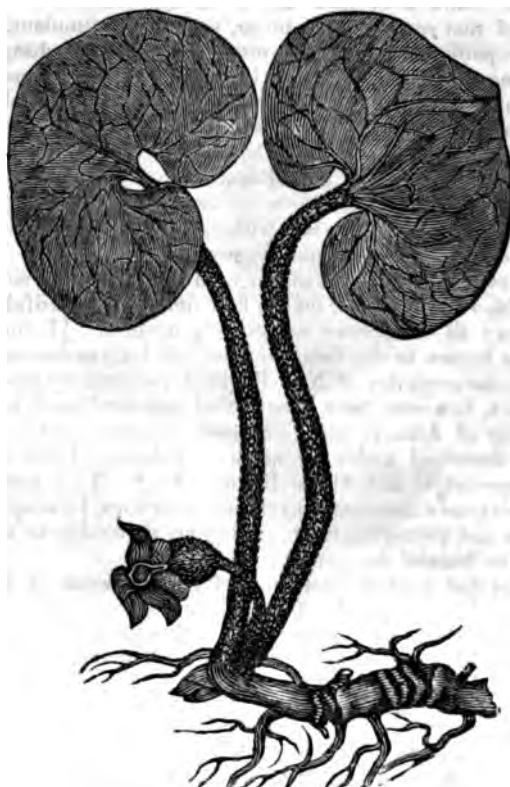
What is this but a plain confession of the Professor of Medical Botany in Transylvania University, that the Indians and empirics are far before the scientifics in the knowledge of the best remedial means? that the doctors are groping along behind, "testing and confirming," that is, learning, what their masters aforementioned have taught them? Really we have some encouragement to hope that these scientifics will yet learn the healing art.

3.—*Asarum Canadense*.—(Canada Snakeroot.)

Genus, Asarum.—Calyx, somewhat bell-form, three or four-cleft, superior; corolla none; anthers proceeding from the middle of the filaments; stigma six-cleft; capsule leather-like, six-celled, crowned with the calyx.

Species, Canadense.—Leaves broad, kidney-form, in pairs; calyx woolly, deeply three-parted, divisions sub-lanceolate, reflexed; flowers, green and purple, appear in the spring. Grows almost everywhere in the United States, particularly in the northern and eastern States, in the woods and shady moist places, in thickets and beside rotten stumps and the roots of trees. It is called white snakeroot, wild ginger, false colt's foot, etc. The root only is used. It is biennial.

Properties.—I have used this plant much, and found it a very pleasant, warming, stimulant and nervine, an excellent deobstruent from every secretory and excretory organ. It is very useful in all affections of the lungs, as colds, asthma, croup, consumption, etc. I use the infusion or powder of the root. In early life, I made much use of it in sirups in the spring to cleanse the blood, for which I found it very beneficial. As the taste is not disagreeable, I was fond of chewing the root, and found it a valuable expectorant and nervine. It is a good sudorific, as it promotes free perspiration without greatly quickening the pulse. It ought to be extensively gathered and used by all who live in the vicinity of its growth.

ASARUM CANADENSIS.—(Canada Snakeroot.)

CLASS, GYNANDRIA; Order, Decandria, Natural Order, Aristolochiæ.

4.—Caulophyllum—Thalictroides.—(Cohosh, Blueberry, etc.)

Genus, Caulophyllum.—Calyx inferior, three to six-leaved, dropping early; nectaries six, nearly kidney-form, fleshy, glutinous at the margin, attached to the claws of the petals; seed naked, elevated on a stipe after having burst its caducous or temporary pericarp.

Species, Thalictroides.—Flowers about April, purple and yellow, in panicles between the leaves. Plants very glabrous; leaves three on a three-forked stem; more than decompound, leaflets oval; lower ones petioled and lobed, end ones three-lobed; lobes three or five-toothed; berries blue; stem woody, two to four feet high.

This plant, as well as others, has a variety of English and Indian names which are also applied to other plants quite unlike it. It is because of the great uncertainty of English names and common descriptions in designating plants, that I give the Botanic characters and names; nor is this course objectionable, since almost every school boy and girl in the United States now learn to designate plants by their scientific names and characters; and so great are the facilities, everywhere, for obtaining the knowledge of this

delightful and instructive science, that even old men and women can become acquainted with the identity and character of the Botanic remedies, much quicker and cheaper in this way than in any other. Let them purchase the seventh or any later edition of Eaton's Manual of Botany, and Mrs. Lincoln's Botany, for the figures and familiar instructions, and Wood's or Gray's Botany for the natural system, and they can learn Botany scientifically, even without a teacher, though it were far better still to obtain an instructor if a good one can be had.

CAULOPHYLLUM—THALICTROIDES.—(Cohosh, Blueberry, etc.)



CLASS, HEXANDRIA ; Order, Monogynia ; Natural Order, Berberideæ.

The above named plant may be found in almost all parts of the United States; most abundant on mountains, shady hills and sandy plains, but occasionally in rich and damp soils.

Properties.—Not having used much this article myself, I give the properties from others, without vouching for their correctness. It is said, by those who have used it, to be pungent and aromatic, and a powerful antispasmodic, and that the Indians, and many whites, use it for fits or spasms, and in all cases where it is desirable to relax muscular fiber. As they do not speak of

its operating as an emetic, it would seem that it differs from lobelia in retaining much longer and relinquishing more gradually, its hold on the system; of course after the stomach is well cleansed, it would be more suitable than lobelia to relieve and cure rheumatism, dropsy, colic, cramp, hiccup, hysteria, cholera, asthma, hooping cough, consumption, etc., and to promote menstruation, parturition, etc., for which it has been much and profitably used; One thing I know of it, for myself. I handled and ate it in my boyhood, enough to know that it is *not poison*. I therefore invite my friends in the practice, to try a tea of the root, in the cases above mentioned, and other like them, and to communicate the results for the *Recorder*.

5.—*Aristolochia Serpentaria*.



CLASS, GYNANDRIA; Order, Hexandria; Natural Order, Aristolochiæ.

Genus, Aristolochia.—Calyx or corol superior; one-petaled, ligulate, inflated at the base; capsule six-celled, many seeded.

Species, Serpentaria.—Leaves heart-lanceolate, acuminate; stem zigzag, ascending; peduncles radicle; lip of the corol lanceolate; flowers purple, spring; root biennial, a knob with many long fibers. (Virginia Snakeroot, birthwort, etc.)

Properties and uses.—This is an excellent warming stimulant, sudorific and restorative, very useful in high fevers and internal inflammation. It should be used in bitters, sirups, powders, etc., as a nervine and restorative. It should not be boiled. Messrs. Wood and Bache say that “too largely taken, it occasions nausea, griping pains in the bowels, sometimes vomiting and dysenteric tenesmus.” I have seen no ill effects from it, but small doses of all nervines are better than large ones. It should be used with much water in the form of a weak tea. Good in typhoid fevers and eruptions.

6.—*Panax Quinquefolia.*



CLASS, PENTANDRIA; Order, Digynia; Natural Order, Araliaceae.

Genus, Panax.—Polygamous, umbelbed; involucre many leaved; calyx superior; five-toothed in the perfect flower; entire in the staminate flower; berry heart-formed, two to three-seeded.

Species, Quinquefolia.—Root spindle-shaped, often forked; leaves first divided into threes and these into fives; leaflets petioled, oboval, acuminate, serrate, two very small; flowers white, appearing early in the spring; berries red, commonly bilobed with two semi-globose seeds, sometimes single or triple. (Ginseng.)

It grows in the hilly regions of the northern, middle and western States, preferring thick, shady woods. Eaton says the plant is biennial. Rafinesque says the berries require two years to germinate, and that the root must be ten to fifteen years old to be the best.

Properties and uses.—I have never used this plant in practice. Dr. Thomson simply calls it a nervine. Rafinesque attributes to it all the powers necessary to the removal of all the causes of disease and the restoration of health; so that, if we may believe him, we have in this one article the long sought *catharticon*, the veritable *theriaca*, the *elixir vita*. He says he has made many experiments upon it, and "found it a good stomachic, restorative, and nervine remedy." He uses chiefly the powder, in honey or sugar candy, in any quantity up to an ounce. The strength is also obtained by decoction. The stems and leaves make good medical tea.

7.—*Capsicum Annum.*



From the Greek, *kapsio*, I bite—a biting plant. The best capsicum is obtained from Africa and South America, one province of the latter, Cayenne, giving its name to the article. It can be produced in good quality in the southern States, especially those that lie beyond the southern line of Tennessee. It grows abundantly, and of excellent quality, in the West Indies, where the negroes count it almost a certain remedy for nearly all their maladies. They have no fears of fatal effects from fevers, even the terrible and devasta-

ting yellow fever, if they can get a plenty of capsicum. They not only drink a tea of it, but they chew and swallow the pods! one after another, as we would so many dough nuts; and never dream that it can do them any injury.

Dr. Thomas, of London, who practiced a long time in the West Indies, found cayenne pepper an almost sovereign remedy for yellow fever, and almost every other form of human maladies. There is, perhaps, no other article which produces so powerful an impression on the animal frame, that is so destitute of all injurious qualities. It seems almost incapable of even abuse, for, however great the excitement induced by it, this stimulant prevents that excitement from subsiding so suddenly, as to induce any great derangement of the equilibrium of the circulation. It produces the most powerful impression on the surface, yet never draws a blister; on the stomach, yet never weakens its tone. It is so diffusive in its character, that it never produces any local lesion, or induces permanent inflammation; yet its counter excitation is of the most salutary kind, and ample in degree. A plaster of cayenne is more efficient in relieving internal inflammation, than a fly blister ever was, yet I never knew it to produce the slightest vesication, though I have often bound it thick as a poultice, on the tenderest flesh, to relieve rheumatism, pleurisy, etc., which, by the aid of an emetic, an enema and sudorifics, it is sure to do. I have thus cured with it, in a single night, cases of rheumatism that had been for years most distressing. Though severe on the tissue to which it is applied, it is so diffusive that it does not long derange the circulation; but, on the contrary, equalizes it. Thus it is not only stimulant, but antispasmodic, sudorifice, anti-febrile, anti-inflammatory, depurating and restorative. It is powerful to arrest hemorrhage from the mucous membranes. When the stomach is foul, a strong dose of the powder will excite vomiting, and an enema of it and lobelia and slippery-elm, will relieve the most obstinate constipation. Taken in powder in cold water, it is sure to move, not only the internal canal, but all the splanchnic viscera, as the liver, the kidneys, the spleen and the pancreas, the mesentery, etc. This article, lobelia, some good astringent, as bayberry or sumach leaves, a good bitter, a mucilage, a good sudorifice and the vapor-bath, must ever constitute the basis of the most effective medication.

8.—Ammomum Zingiber.

Ginger.—Next to cayenne, we have no diffusive stimulant equal to the best African or Jamaica ginger. It is less acrid than cayenne, but aromatic and very diffusive; hence, it is more pleasant as a tea for ordinary purposes, as colds, influenza, etc., which, if taken immediately and aided by the vapor-bath, it is almost sure to remove. Those who prepare ginger, often put into it corn meal "to make it grind easily," and, if the article is not good, "a little cayenne with it will make it sharp enough!" So the reader will see that the best way for him to get good ginger, if he has not full confidence in the honesty of the grinder, is to buy the pure imported race, the white from Africa or the brown from Jamaica, and pulverize it himself in a mortar, or grind it in a mill such as is used for tan bark. It will cake in and clog a coffee mill.

This article, like cayenne, may be used freely in all cases in which it is desirable to produce an equilibrium of the circulation and the nervous action, as its effects are not followed by depression. The tea needs not be strong, but it should be *freely* taken, until the equilibrium is established, and the relief is complete, aided by the bath if necessary. *An I take this tea and*

bathe my feet or my whole body, on the first attacks of disease, I seldom have the need of any other medicine.

AMMOMUM ZINGIBER.



9.—Hedeoma Pulegioides.—(Pennyroyal.)

CLASS, DIDYNAMIA; Order, Gymnospermia; Natural Order, Nepetaceæ.

Genus, Hedeoma.—Calyx two-lipped, ten striate, gibbose (projecting) at the base; upper lip with three lanceolate teeth; lower lip with two subulate ones; corolla ringent; two short stamens without anthers.

Species, Pulegioides.—Pubescent; leaves oblong, acute, serrate; flowers axillary, all along the branches, whorled in sixes, on short pedicels, with two small bracts. Flowers blue or purple, appearing in July and August. Grows in the form of field cedar, almost everywhere, especially in the south and west. About a foot high. The cut is well executed.

Of this article we have made very much use in practice, and can speak with confidence of its virtues. Its decoction is both relaxant and stimulant, opening the pores freely and exciting the organs to move forward rapidly the morbid matter in the system, promoting a free discharge of all the secretions and excretions. In slight or recent cases of obstruction or suppression, strong decoctions of this herb, drank freely, with vapor-bathing, will give permanent relief. But as I do not believe in specifics, I never trust to this or any other article to effect the whole cure in any case. Though I am as well

aware as any one, that cayenne and its kindred stimulants (of which this is, in several respects, one), come as near accomplishing this end, as any medicines ever yet discovered; I am also aware that the reason why they do it is, that they are not only compound medicines themselves, but they act in perfect harmony with the intentions and operations of the living system; thus multiplying the compound effect, in a manner of which, in our estimation of the effect of medicines, we are too apt to lose sight.

HEDEOMA PULEGIODIDES—(PENNYROYAL.)



This article, being more relaxant and less stimulant than cayenne, is of course more sudorific and less heating. It follows that it is good in burning fevers to promote perspiration, and to evaporate the surplus heat generated by high organic action, and such we have found it. Being pleasant to the taste of most persons, I have used it freely as a drink in giving courses, alternated with strong doses of more powerful articles, as cayenne, etc., to promote perspiration, vomiting and other operations, for which it is excellent, though not equal to catnip except for the taste, which is more agreeable.

I have found, among some patients, the superstitious notion that "this article *may be* injurious in certain cases." All I can say in reply is, I have used it in many such cases, as strong as I could make it, and as freely as the patient could drink any fluid, without any injurious effect. No article in the

materia medica is more innocent. Being very secernt, sudorific and volatile, its power is diffused and lost, before any serious oppression is produced.

I strip the leaves and pods from the stem with the thumb and fingers, from root upward, dry them on newspapers, pack them in glass jars, and use strong decoctions. The oil may be used, when the herb can not be had.

10.—*Myrica Cerifera*.—Bayberry.



CLASS, DICOTYLEDON; Order, Tetrandria; Natural Order, Amentaceæ.

Genus, *Myrica*.—Staminate flowers; ament oblong; calyx, an ovate lunulate scale; corol none; stamens four to six; anthers four-valved; pistillate flowers; calyx and corol like the staminate; stigmas two; drupe or berry one-seeded.

Species, *Cerifera*.—Flowers about May, green and purple. Leaves, wedge lanceolate, acute, with distant serratures at the apex. Staminate aments lax; scales acute. Fruit small, globose covered with a whitish wax, in a mealy state. Var. *pumila*, leaves lance-linear, two feet to eighteen.—Eaton. Sweet gale, candleberry, wax-berry, wax-myrtle, etc.

This shrub grows on and near the sea shore, from Maine to Georgia; in New England and Virginia, very abundantly. It also grows about the great lakes between the United States and Canada, and in Tennessee, Alabama and Mississippi; but I think that growing near the sea shore the strongest and best.

Properties.—For removing canker from the system in all chronic cases, this is an invaluable medicine. It is a powerful stimulant, though its effects on the sensitive organs are not, to most persons, so disagreeable as those of cayenne and some other stimulants. It is astringent and slightly mucilaginous,

aiding that kind of action in the system which generates heat, and is consequently very properly united with cayenne to raise the action in all cases of cold clamminess, where there is much morbid matter in the system, in which cases, it may be given as strong and as freely as you please. In cases of acute and high fever, where the skin is very dry and hot, and the pulse quick, full and strong, I do not find it so good to promote perspiration, to relieve the oppressive, superficial heat, and quiet the nervous system, as catnip, sage, balm, boneset, and many other cooling sudorifics. If given weak, however, and in a large quantity of fluid, it answers well even in these cases; but, to give it very strong, in small quantities of fluid is objectionable, because it creates the excitement which produces thirst, without furnishing fluids to slake it.

The bark of the root is the strongest, but so great is the demand for it, that the whole should be collected, and the leaves also preserved, of all the shrubs that are dug up. These will be useful in less urgent cases. They should be kept distinct, and properly labeled. They will be found very useful in poultices for old canker sores, scrofulous tumors, etc. A constant drink of bayberry and sumach bark or leaves, will cure the scrofula in almost any stage. But I would not specify lest I limit the use of this valuable article. I know of but the case mentioned above, where it is improper, and it is so there only because it is less valuable than some other articles. Being astringent and stimulant, it is not so suitable when the skin or the mucous membrane is already contracted and excited, as articles that relax and lubricate. In all other cases, it tends to promote every secretion, and is, of course, good to remove canker from every obstructed organ or tissue.

11.—White Pond Lily.—(*Nymphaea*.)

CLASS POLYANDRIA, Order Monogynia.

Genus, Nymphaea.—Calyx four to seven-leaved, corol many petaled in several rows, equaling the calyx in length, attached to the germ beneath the stamens; stigma a broad disk marked with radiated lines; pericarp, berry-like, many celled, many seeded. Natural order, Nymphaeæ.

Species, Odorata.—Leaves radical, round heart-shaped, entire at the edges, split at the base, lobes acuminate, petals equaling the calyx. Calyx four-leaved, equal, green outside, white within. Scapes one-flowered, white, sweet scented. Grows in ponds, its leaves and flowers floating. Found in the eastern, middle and western States in abundance, more scarce in the southern. Odor like that of magnolia glauca. Of some varieties, the roots are yellowish, and of others the petals are rose colored; all are good. *Roots used*: Perennial, creeping, blackish, thick and knotty; two inches or more in diameter when grown.

This article is excellent for removing morbid matter of every kind, from every portion of the animal frame. It is stimulant and deobstruent, calculated to promote the healthy action of the organs, and, of course, the result of its use will be the recovery of tone to the system. It is among the best articles for poultices for inflamed tumors and old sores, and excellent in sirups for internal inflammations, ulcerations, or morbid discharges. Whenever it can be conveniently obtained, it may form a part of the compound tea given in a course of medicine.

The best time to gather this root, is in the fall after the stalk is withered and the ponds are dry or low. Slit up in strips and dry it in an open chamber, then pound or grind it to powder as you want it, or keep it for sale or

exchange. Do not complain that I have not specified all its properties and all the forms of disease for which it is useful; but remember that it is stimulant and deobstruent, calculated to remove all kinds of morbid matter from every portion of the system.

WHITE POND LILY.—(*Nymphaea*.)



Physicians have attempted to discover, by chemical analysis, the probable operation of this article on the human system; but all such attempts are worse than vain, for they lead to a dangerous empiricism under the guidance of false principles. That an article of food or medicine contains elements which, if used alone, would produce specific effects, good or bad, is no proof that the compound from which it is derived would produce similar effects. The air we breathe, the salt we eat, the lime water we drink, all contain elements destructive to life, but experience proves to us that the compounds are as useful and necessary, as the simples are injurious and destructive. Before we can say what effect a compound will produce upon a vital organ, we must ascertain which is the strongest, the chemical affinity or the vital power; and this can be done only by submitting the compound to the vital action in a healthy state. If under such circumstances, it increases the vital energies, without diminishing aught of the organic powers; it is a valuable remedy for disease, be its ingredients what they may.

This "scientific" determination of the suitableness or unsuitableness, the sanative or poisonous tendency of a vegetable substance, is a mere humbug of an interested craft, by which they are enabled to dupe the ignorant multitude, but with which they will not attempt to deceive a practical physician and chemist. Their pretending to judge of the causes of death under the Botanic treatment, from analysis of the stomach, etc., is so manifestly absurd, not to say knavish, that it is wonderful they are not ashamed, for their own

sake, to mention it in a community where there is reason to believe that one man in a hundred has the least claim to the title of "scientific."

12.—Witch Hazel.



CLASS 4, ORDER 2. TETANDRIA DIGYNIA, SNAPPING HAZEL, WINTER BLOOM, (*Hamamelis Virginica*.—Eaton, etc.)

Involucre three-leaved, three-flowered: Proper calyx doubled, exterior two-leaved, small, roundish, interior four-leaved, erect, oblong, obtuse, equal; coroll four petals, yellow, linear, equal, very long, obtuse, reflexed. Nectary four leaflets, truncate, joining the corol. Filaments shorter than the calyx. anthers two-horned, reflexed. Germ ovate, villous; two styles, stigmae capitate. Seed a nut, ovate, half covered with the calyx, furrowed each side of the apex, two horizontal, two-branched horns, two cells, two valves; (small, black and shining; ripe capsule suddenly explodes with a noise, scattering the seeds). A shrub growing in bunches like chinquapins, hazel or alders, sometimes eight or ten feet high. Branches flexuous and knotty, bark smooth and gray with brown dots. Leaves oval, obovate, or oval oblong, irregularly notched or scalloped on the edges, smooth above, downy beneath, peduncles single, two to five-flowered, blossoms after the falling of the leaves [from October to February.—Marshall]. Grows on high lands and the stony banks of streams, from New England to Carolina and Ohio.

Medical Properties.—Astringent, stimulant, aromatic, and slightly bitter.

The bark and leaves are used. This is the best article in our vegetable *materia medica*, for stopping hemorrhage. In all cases of hemorrhage, means should be used to expand the collapsed vessels, and strong decoctions of this article should be administered as directly as possible to the part affected. In bleeding at the stomach, drink freely; at the nose, snuff it up—(a little alum may be dissolved in the tea for this purpose). For piles or bearing down pains, use it in injections. It should be used as a canker medicine when the stomach is to be much relaxed. It is perfectly innocent, pleasant to the taste, and should be given strong and freely, until the desired effect is produced.

I have given it in hemorrhage from the nose, stomach, lungs and other parts of the system (cases in which the regular practice had proved worse than vain), as an auxiliary to the restoration of an equilibrium of the circulation, and have not yet seen a failure. I do not consider this, or raspberry leaves, so good for canker as lily root, bayberry or sumach; though I often give them sweetened to children who are unwilling to take bayberry, sumach, etc., and I find that they prove effectual. Professor Rafinesque of Transylvania, says:

"Properties.—Sedative, astringent, tonic, discutient, etc. The Indians value this shrub highly, and it is much used in the north by herbalists. The bark affords an excellent topical application for painful tumors and piles, external inflammations, sore and inflamed eyes, etc., in cataplasm or poultice or wash. A tea is made with the leaves, and employed for many purposes in amenorrhea, bowel complaints, pains in the sides, menstrual effusions, bleeding of the stomach, etc. In this last case, the chewed leaves, decoction of the bark or tea of the leaves, are all employed with great advantage. A strong infusion is given by injection for bowel complaints. It is said to be a mild, yet efficient astringent in all cases," etc.

The above extract proves the witch hazle innocent and good, suitable as an astringent and discutient, in amenorrhea and menstrual effusions. I have called it, when dry, prominently astringent, stimulant and tonic; when green, slightly demulcent, stimulant, and of course discutient, but I never use it as a demulcent or discutient, because slippery-elm, lily root, bayberry, and ginger and cayenne are far better.

12.—*Xanthoxylon Fraxineum*.—(Prickly Ash.)

CLASS DICECIA; Order, Petandria; Natural Order, Terebinaceæ.

Genus, Xanthoxylon.—Staminate flowers, calyx five-parted; corol none; stamens three to six; pistillate flowers; pistills three to five, a capsule to each, one-seeded; anthers four-celled, styles connivent, twisted.

Species, Fraxineum.—A shrub from five to twenty feet high, prickly, leaves pinnate; leaflets lance oval, sub entire, sessile, equal at the base; umbels axillary; flowers green and white. It grows in almost every part of the United States preferring moist places. It is called by various names, as toothache bush, yellow-wood, suterberry, pellitory, etc.

The bark and berries are chiefly used in medicine. The fresh leaves are also valuable. When rubbed, they are oily and aromatic. This is an article of great value, and should be used much more than it is, by all who can gather and prepare it. I have found it a strong stimulant bitter; of course it is cleansing, antiseptic, strengthening and healing. It is an excellent medicine between courses, and a good substitute for cayenne when the patient gets tired of this article. It should be reduced to a fine powder, and taken in substance, with sugar, honey or molasses, or in cold infusion. In warm

infusion, it is good to remove canker, either taken internally or used as a wash for sores. The dry powder sprinkled into the sores, will detach the morbid matter, and cause them to heal. It is a powerful deobstruent in every part of the system, as it retains much of its strength during the whole course of the circulation ; but all medicines should be applied as directly as possible, to the parts they are intended to affect. It is good to discharge saliva and spuma from the lungs, and to relieve asthma and colds generally. It should enter largely into the bitters to be drunk in chronic rheumatism, ague and fever, dropsey and dyspepsia.

XANTHOXYLON FRAXINEUM.—(*Prickly Ash.*)



13.—*Solanum.*

CLASS PENTANDRIA ; Order, Monogynia ; Natural Order, Solanaceæ.

Genus, Solanum.—Calyx five to ten-parted, permanent ; corol bell or wheel form, five-lobed, plaited ; anthers thick, partly united, with two pores at the top ; berry containing many seeds.

Species, Dulcamara.—Stem shrubby at the base, unarmed, climbing ; leaves glabrous, lower ones mostly cordate, upper ones mostly guitar hastate ; stem few flowered ; corymbs opposite to the leaves ; flowers in July, blue and purple ; berries ovate, about the size of large buckshot, yellowish red.

This is an article that I have never used. Different individuals give accounts of its properties that are irreconcileable with each other. I give a good cut and a correct description, that my friends may find it, and test its properties for themselves. Dr. Beach uses the woody part internally, and an extract of the bark and leaves in salves. Botanics generally use the bark only. Dr. Thomson uses the bark of the root with camomile and wormwood, which he says, "make an ointment of great value for a bruise, sprain, callous swelling, or for corns."

SOLANUM.



14.—*Arum Triphyllum*.

CLASS, MONOCOTYLEDON; Order, Polyandria; Natural Order, Aroidæ.

Genus, Arum.—Spatha, curled (sheath or flower) cucullate at the opening. Spadix (pistil-like organ) not entirely covered with stamens or pistils, being naked above; staminate flowers in the middle of the pistillate, or beneath them. Berry red, mostly one-seeded, generally cirrose (or tendriled), glandular beneath. Indian turnip, wake robin, dragon root, pepper turnip.

Species, Triphyllum.—Flowers in May; spatha purple, green, and white, striped, roofed, ovate, acuminate, peduncled, with the laminae as long as the spadix. Leaves ternate, ovate, lanceolate, acuminate; spadix club-formed; plant twelve inches to three feet high. The root biennial, shaped like a turnip, skin wrinkled; fibers shooting from the top. Grows almost everywhere.

Properties.—Very acrid and pungent, but rather too volatile to be very

useful in medicine. We have never used it except in cough powder with other articles. Dr. Thomson says: "I have mostly made use of it for coughs and disorders of the lungs, for which I have found it a very useful article." Dr. Howard says it is "stimulant, expectorant, carminative and diaphoretic." To these, Rafinesque adds sundry others, as "incisive, restorative, heating. It has been found very useful in flatulence, cramp in the stomach, asthmatic and consumptive affections; atrophy, debility, great prostration in typhoid fevers, deep-seated pains, chronic catarrh, etc." Physicians have informed me that the fresh root grated and bound on a ringworm, or a scald head, will cure it. I think it may be useful in this way, though not a specific. Good in poultices. It loses strength in drying.

ARUM TRIPHYLLUM.



As the virtues of this article are not yielded to water, it must be used in substance, as a conserve in sugar or with sirups. There are many species, all more or less medicinal, the most pungent is the best. Dig, split and dry in the fall; but do not powder it until wanted for use.

15.—*Eupatorium Perfoliatum*.—(Boneset.)

CLASS, SYNGENESIA; Order, Polygamia Equalis; Natural Order, Corymbiferæ.

Genus, Eupatorium.—Calyx, imbricated, (rarely simple), oblong; style long, cloven half way down; egret pilose, scabrous, or rough papilose; receptacle naked; seed smooth and glandular, five-striate.

EUPATORIUM PERFOLIATUM.—(*Boneset.*)

Species, Perfoliatum.—Leaves connate-perfoliate, lanceolate, serrate, rugose, downy beneath; stem villose, florets about twelve, whitish; flowers from August until October. Thoroughwort, crosswort, Joe-pie, feverwort, Indian sage, sweating plant, ague weed, etc.

A more minute description of this very common plant, is unnecessary, as the cut is so accurate that no one can mistake it. The leaves, flowers and small branches are used. It prefers a moist and rather shady situation, where it is abundant in almost all parts of the United States. It should be gathered in September and October. Strip off the leaves and blossoms, and leave the stems in the ground. I have found this one of the very best of medicines. It is very bitter but not astringent. In warm decoctions and large doses, it is emetic and powerfully sudorific; in cold infusion, laxative, alterative and tonic; in every form stimulant and deobstruent—a first rate article in fevers. It is extensively used by Botanics of all classes, and not unfrequently by the mercurialists. It is an excellent alterative, used between the courses. Drank freely in cold infusions, it will overcome the constipation of almost any dyspeptic. It may be used in extract and sirup which are not so disagreeable. It is excellent in poultices. Rafinesque says, "It was one of the most powerful Indian remedies in fevers. It appears to be superior to camomile as a sudorific tonic, and preferable to barks in the treatment of the local autumnal fevers of the country, near streams, lakes and marshes. I have seen it cure them efficiently, after other tonics had failed. It acts somewhat like antimony without the danger attending the use of this mineral."

I ask then, why do not the mineralists advise the people to procure it and use it instead of antimony? It is certainly much *cheaper* and *more convenient*, as well as better and safer.

"The cold preparations are powerful tonics, and do not produce emesis, as an overdose of the warm decoction. It acts powerfully on the skin, and removes obstinate cutaneous disease. It has cured, in many instances, intermittent and remittent fevers; petechial or spotted fever, called also malignant or typhoid pleurisy; disease of general debility, ascites, anasarca, and debility arising from intemperance; acute and chronic rheumatism, violent catarrhs, bilious and typhous fever, particularly low typhus incident to marshy places, and attended with a hot, dry skin; also influenza, the lake fever, similar to the yellow fever, and the yellow fever itself; ringworms and tinea capitis, dropsy, gout and syphilitic pains, dyspepsia and complaints of the stomach, and bites of snakes.

"This plant may be so managed [see above] as to act as a tonic, a sudorific, a laxative or an emetic. No other tonic of equal activity can be exhibited in fevers with less danger of increasing excitement or producing congestion. The only objection to its general use, is its nauseous and disagreeable taste. [A very trifling objection indeed]. In substance or cold decoction, and combined with aromatics, it becomes very efficient in intermittents and dyspeptic disorders; it strengthens the viscera, and restores tone to the system. No unpleasant effects follow the [use of the] cold preparations.

"Ample accounts of the beneficial effects of this plant, are to be found in all our medical works. Burson says that, in anorexia consequent to drunkenness, a cold infusion has speedily restored the tone of the stomach. Zolicker extols it as an alterative remedy in tinea capitis. Thacher says that the cold infusion cures bilious colic with obstinate constipation, a teacupful every half hour producing a cathartic effect. The warm infusion causes copious perspiration, and often becomes a safe and certain emetic.

"Chapman relates that it cured the kind of influenza called the break-bone fever, acting as a diaphoretic, whence its popular name of boneset. The name of Joe-pie is given to it and to E. purpureum, in New England, from an Indian of that name who cured typhus with it by a copious perspiration. Eberle says that catarrhal fevers may be removed by drinking a weak infusion of it on going to bed. It is particularly useful in the indigestion of old people, and may be used as an auxiliary to other tonics and emetics in all cases. The extract and sirup preserve all the properties, and are less disagreeable to the palate."—Raf. Med. Botany.

What a valuable article this must be, if the testimony of standard medical authors can be taken! Though I have not used it in half of the cases above enumerated, yet I do not believe that its powers in any one of them, are overrated, all the effects it is said to produce, being the necessary results of its relaxing, stimulating and restoring or bitter qualities, the first and last of which are great, the second is moderate.

The good effects ascribed to this article by mineralists, are plain acknowledgments:

1. That the best medicines are useful and safe, in almost all cases of disease, and dangerous in none.
2. That stimulants and tonics are good in fevers, and of course that their depletions are all wrong.
3. That this article is both better and safer than antimony as an emetic, and that, of course they are very wicked to use that dangerous metal in preference to a surer and safer remedy.

4. That it is better than niter for fevers, than calomel as an alterative, or than blue pills for dyspepsia; what excuse can they give for using those dangerous articles in its stead? It can no longer be pleaded that poisons must be used as medicines, because no innocent articles will answer the same indications of disease. It is now pretty well understood by a large portion of the community that poisons were not intended for medicines, and the doctors will not much longer be able to force them down the necks of even those who adhere to "the profession."

16.—*Chelone Glabra*.



CLASS, DYDINAMIA; Order, Gymnospermia; Natural order, Scrophulariæ.

Genus, Chelone.—Calyx five-cleft or leaved, three-bracted; corolla ringent inflated, the upper lip obtusely notched, under lip slightly three-cleft, the rudiment of a smooth filament between and shorter than the two tallest stamens; anthers woolly; capsule two-celled, two-valved; seeds with membranaceous margins.—EATON.

Species, Glabra.—*Balmony, bitter herb, snake head, etc.*—Leaves opposite, lance-oblong, acuminate, serrate; spikes terminal, dense flowered. There are several varieties—flowers white, purple, white and red, leaves sessile, subsessile or short petioled, broad or slender, smooth or pubescent. They may all be detected by the shape of the flower (see cut) and are equally good in medicine. It grows in damp places, rich, and shaded soils, in all parts of the United States; flowers in summer.

Properties and uses.—This is a very intense bitter. In much use of it, I have discovered in it no tendency either to open or constipate the bowels. I therefore call it a pure neutral bitter. As such, it is, of course stimulant

and deobstruent in general, and an excellent restorative. Rafinesque says he "has the pleasure of introducing these active plants into the *materia medica*; that he is indebted to Dr. Lawrence for the first knowledge of their properties, and he to the Shakers." That may be true, but it is very certain that Dr. S. Thomson introduced them to *the people* long before Rafinesque knew any thing of their properties or uses. Moreover, it is certain that the *latter* does not know them now; for he calls them, in large doses, active cathartics! Every one who has used them properly, knows better than this. I have given half a pint every hour, of the strongest decoction I could make, without producing this effect. I think it more than probable that, as it moves the whole system "in a natural manner," it would break the bowels loose, if administered by "skillful hands," in the torpid state to which allopathists often reduce their patients. But, let the system be first thoroughly cleansed by scientific courses of medicine, and balmony, even in liberal doses, will produce no catharsis. Our friends should use this herb freely.

17.—*Berberis*.—(Barberry.)



CLASS, HEXANDRIA; Order, Monogynia; Natural Order, Berberideæ.

Genus, Berberis.—Calyx inferior, six-leaved: petals six, with two glands at the claw of each; style none; berry one-celled, two or four-seeded; (stigma umbilicated; stamens spring on being irritated.)

Species, Vulgaris.—This is a shrub or bush three to eight feet high. Its yellow flowers appear in April and May; branches punctate; prickles mostly

in threes; leaves obovate, remotely serrate; flowers racemed, racemes nodding; berries oblong and red. It is found throughout New England and on the high rocky or dry and sandy lands of the more Southern States, but rarely in the West or in rich soils.

I have used this article to some extent myself, and can assure my readers that it is, to say the least, very good. The leaves are frequently used, but the bark is the strongest and best. It is yellow.

Properties.—Acid, bitter, astringent, stimulant, antiseptic. The remark that "plants are compound medicines, from nature's pharmaceutical laboratory," is peculiarly applicable to this. According to the state and wants of the system, the barberry will sometimes produce an action on the bowels, and at others correct their debility. It is an excellent expectorant, cleanser and healer of the mouth when sore from any cause, and, on account of its acidity which is quite prominent and agreeable in the berries, is very good to give an appetite and aid the digestion after courses. It may be properly classed among the neutral bitters, though occasionally it proves laxative when a stimulus of that sort is much wanted.

To the general use of this article, there lies this strong objection: I have never been able to get a pound in this country for less than a dollar. Unless, therefore, it can be obtained cheaper, other articles, as a compound of golden seal and sumach bark, leaves and berries (which is quite as good), will be used in its stead. It is abundant and cheap in New England.

18.—Golden Seal.—(*Hydrastis*).

CLASS, POLYANDRIA; Order, Polyginia. Natural Order, Rannunculaceæ.

Other Names.—Yellow root, orange root, Indian paint, yellow paint, eye-balm, ground raspberry, etc.

Hydrastis—*Generic character.*—Petals three, ovate, dropping early; berry red, composed of many one-seeded ascines (like raspberries). The petals are by some called a colored calyx.

Canadensis.—*Specific character.*—Flowers in April, white and red, single, terminal; leaves two, lower one petioled, upper one sessile, unequal, three to seven lobed, lobes acute, unequally serrate. Peduncle shorter than the upper leaf. Root perennial, bright yellow, crooked, wrinkled, rough, knobby, with many long fibers; loses one third by drying. Collected and cured as directed for lily root, page 381. As the plate will enable any one to distinguish the plant with certainty, a more minute description is unnecessary here. It grows from Maine and Canada, to Georgia and the Mississippi River, preferring rich, shady and moist lands to dry, and sandy soils to limestone. An herb from one foot to two feet high.

Properties.—Bitter, acrid, laxative or nauseous, stimulant, and, of course, eventually tonic. This excellent article should constitute an ingredient in all the bitters used after courses of medicine, to restore the natural action of the stomach and bowels. For this purpose I have used it with happy effect. A dose of it will often remove the dyspeptic heaviness after eating. But I have made the most use of it with equal parts of poplar, bayberry (balmy, if I can get it) a half part cayenne, a half part nervine, and bitterroot enough to regulate the bowels for each particular case. Teaspoonful doses at night. When the liver is very torpid, and in bilious cholic, I add a half part of lobelia seed. It is a valuable ingredient in conserve. A strong decoction of it is an excellent wash for sore eyes and all old sores. Chewing

this and coptis trifoliata, after courses of medicine, will cure the white apthæ or ulcers in the mouth. This saliva should not be swallowed.

GOLDEN SEAL.—(*Hydrastis.*)



19.—*Apocynum—Androsæmifolium.*—(Bitterroot, Dog's Bane.)

CLASS, PENTANDRIA; Order, Digynia (according to some); Gynandria Pentandria (according to others); Natural Order, Apocyneæ.

Genus, Apocynum.—Corol bell-form; stamens with converging anthers, proceeding from the middle of the stigma, and alternating with five nectaries; stigma thick, almost sessile; follicles in pairs, long linear.—Eaton.

Species, Androsæmifolium.—Indian hemp, milkweed honey bloom (the flowers smell sweet and yield much honey), catch-fly, fly-trap, etc. (Flowers a reddish white; June and July, a biennial plant). Stem erect, branching; leaves oblong ovate, acute, entire, glabrous, two or three inches long, opposite, very short petioled, downy when young; cymes or bunches of flowers, terminal, and lateral; tube of the corol longer than the calyx, with a spreading border.

The whole plant is milky and rather nauseous; stem smooth, and covered with a tough, fibrous bark, two to five feet high, very branching in forks, gen-

erally reddish on the side next the sun. The bark of the root only is used in medicine. The root is perennial, from a third to half an inch or more in diameter, very long, composed of a very thick intensely bitter bark, and a small, and less bitter woody substance.

APOCYNUM—ANDROSÆMIFOLIUM.—(Bitterroot, Dog's Bane.)



It grows in all parts of the United States where the soil is light and sandy, preferring open fields; rarely in damp, heavy, rich lands. It should be dug in the fall, dried in a loft and kept whole until it is wanted for preparation, as it loses its virtues faster in powder. When it is bruised in a mortar or with a stick, the bark, being more brittle than the wood, will be easily separated.

But, if you prefer to purchase of large manufacturers and venders, you may frequently have the benefit of the wood of the root, and even the stems, if not a little alder bark, all "prepared" together. I do not say that practitioners should never trust a known and tried friend, but I have but one safe advice for you, viz.: learn the identity and *native* power of all your remedies as soon as you can. Then purchase them of others only in their crude state. "No, but I must buy spice bitters, composition, etc." Very well, if you are determined, contrary to my advice, to pay a manufacturer sixty-two and a half, seventy-five or a hundred cents a pound for the brown sugar that costs him eight to twelve, and for the ginger that costs him ten to sixteen, with which he has reduced the power and value of the simple bitters in proportion to the increase of his price on the sugar, etc., then go your own way. You are free; and whatever others may desire, I wish to control your actions by no other influence than reason, truth and your own best interests.

Properties.—This article contains a large proportion of the bitter principle which is always stimulant; and the same relaxant property, that constitutes the chief value of lobelia. It also contains an antiseptic gum, and coloring matter, etc. The combination of the bitter and the relaxant properties so

modifies each, as to produce an effect nearly intermediate between them. Hence the bitterroot is tonic, antispasmodic and secerent, strengthening the organs, relaxing the vessels, and promoting emesis, or the obstructed secretions according to the conditions and wants of the system. Its effects on the system may be very nearly imitated by combinations of golden seal, nerve powder, poplar, cayenne, lobelia and slippery-elm; and its own disagreeable taste and emetic effect, may be much modified by uniting it with articles more pleasant to the taste, in pills or sirups.

Some of our Botanic friends have become so much wiser than "their master" was when "he believed his system and remedies about as near perfection as it was possible for human powder to bring them" (Guide, tenth edition, page 191), that they are reforming out this excellent article from their practice, as a proof we suppose, of their opposition to reform. I do not imitate them in this "improvement." It is true that the article is not so often wanted as some others, but it is also true that, when it is wanted, it is one of the best, if not the very best, we have for the purposes. It may be given when not wanted; or too much may be given when it is; but the argument for its total rejection, is as strong for that of cayenne, lobelia, or mush and milk. Its relaxant effect on the stomach is retarded by the action of its other properties, and extended to the bowels by its power to retain its hold on the nervous and muscular systems. These are the particulars in which, as an emetic, it differs from lobelia. Hence if the stomach is very foul and irritable, emesis follows its use; if not, it generally passes on, produciug a more prominent effect on the lower viscera. I have found it an excellent article in all torpidity of the lower viscera, particularly the liver and kidneys. This article alone in decoction has cured cases of dropsy that had baffled all the skill of the regular practice. It will be found an important auxiliary to the general treatment in removing obstructions peculiar to females. There is another species called cannabinum, so nearly resembling this in appearance, as not to need a particular description; as there is little difference in their medical qualities. Both are used. The latter is more slender than the representation in the cut.

20.—*Lycopus Virginicus.*

CLASS, DIANDRIA; Order, Monogynia; Nat. Order, Menthoidæ.—(Labiatae.)

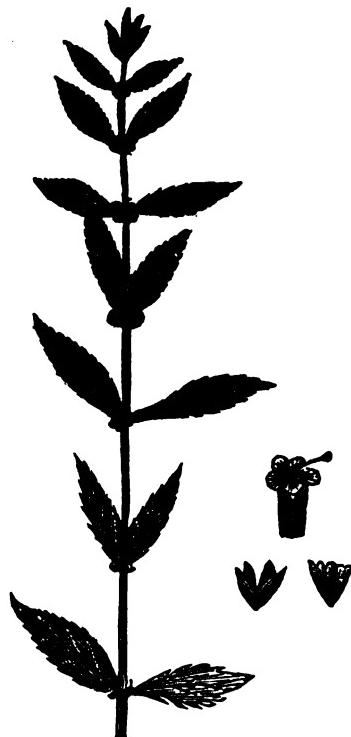
Genus, Lycopus.—Calyx tubular, five-cleft or toothed; corol tubular, four-cleft, one division broader and emarginate; stamens distant; seeds four retuse (a little depressed at the end).

Species, Virginicus.—Leaves broad-lanceolate, serrate except near the base where they are entire and narrowed; calyx very short, spineless. Another species, *Europeus*, has the lower leaves gashed, the calyx acuminate and spined, and the flowers small and whorled like hoarhound, forming a sort of burr around the stem. Growing mostly in damp places, it is called water hoarhound. It is the archangel of Dr. Thomson.

Properties and uses.—These plants contain, according to Dr. Thomson, "the rough and the bitter." Rafinesque extols them very highly as excellent sedatives, particularly the virginicus (here pictured), as "altogether preferable to digitalis or prussic acid (rank poisons) because it lowers the pulse without producing any bad effects or 'accumulating in the system,' a very valuable substitute for all narcotics and even bleeding, since it produces the same state of the arterial system without inducing any debility, or acting on the heart or brain in any injurious manner." Now this all arises from its

influence on the nerves, which is to relax them, expand the vascular system and equalize the circulation. He calls it "narcotic;" but it is not so in the least degree, in the true sense of that term. It quiets the nerves and induces sleep, on the same principle that lobelia does, but is not half so good an article for this purpose as lobelia is. It is inferior also to boneset. I have found it a good restorative after a course in ague and fever; but prefer balm, boneset, poplar and golden seal.

LYCOPOUS VIRGINICUS.



21.—*Eupatorium Purpureum*.

Genus, as above. *Species, Purpureum*.—Stems, many from the same root, purple, hollow; leaves four or five, whorled, petiolate, ovate-lanceolate, serrate, rugosely veined, slightly scabrous; flowers purple, florets many, in an eight-leaved calyx. *Variety, Levigatum*.—Calyx about five-flowered, leaves in fives, petiolate, lanceolate, slender, very glabrous both sides, stem smooth, sub-glaucous. The decoction of the root of this species is recommended. It is perennial, long, fibrous, white or brownish. Queen of the meadow, gravel root, etc.

I have made but little use of this species. Mineralists say that it possesses the same properties as the *E. perfoliatum*. Many botanists, say that it is a powerful diuretic, excellent in gravel, fevers, and in all disease of the female system, dropsy, rheumatism, gout, etc. Dr. Howard says it is astringent.

The cut is a good representation by which no one will fail to recognize it.

EUPATORIUM PURPUREUM.



If any practitioner has used it extensively, he will do his brethren a favor by communicating the results. If the leaves of any plant are as good as the root, they should always be preferred; first, because they are much more easily obtained; and, second, because taking them off does not destroy the plant. Of plants of which the roots are the best, we should also preserve the bark and leaves for ordinary purposes, especially if those plants are scarce, as bayberry, barberry, &c.

22.—*Pyrola Maculata*.

CLASS, DECANDRIA; Order, Monogynia; Natural Order, Pyrolaceæ.

Genus, Pyrola.—Calyx five-cleft; petals five, slightly united at the base; stamens ten, anthers opening by two pores; stigma capitate, capsule five-celled, five-valved, seeds many, arilied.—Rafinesque.

Eaton says, “Anthers beaked, with two pores at the base before, and at the top after the opening of the flower; style immersed; stigma thick, ~~or~~^{and} capsule opening at the angles near the summit.”

Pyrola Maculata.

Species, Maculata.—Leaves ovate-lanceolate, acute, base rounded, remotely serrate, striped with white nerves; flowers two or three; style very short; capsule resembles allspice. Pipsissiway, wintergreen, white leaf, ground holly—leaves resembling those of holly—rheumatic weed, etc.

It is found on pine plains and in light shaded soils, in all parts of the United States. It blossoms in midsummer.

Properties and uses.—The whole plant has a pungent and bitter-sweet taste. It is diuretic, sudorific and tonic. It may be used in powder, tincture, infusion or extract. The first form is the best. It is very purifying, and may be used in poultices and salves for hard swellings, and all bad sores, with great advantage. It is good for the scald head. Its secerment and deobstruent properties, render it a very valuable article in all cases of dropsy, and of obstructions in the kidneys and urinary organs. It is grateful to the stomach, and strengthens the digestive organs.

The *Pyrola Umbellata*, another species, with green wedge-shaped leaves, has similar properties.

23.—Oxalis Acetocella.

CLASS, DECANDRIA; Order, Pentagynia; Natural Order, Oxalidæ.

Genus, Oxalis.—Calyx permanent, five-parted or five-leaved, inferior; petals five, cohering by claws; capsule five-celled, five-cornered, opening at the corners; seeds two or more in a cell, covered with an elastic aril; stamens with five short outer ones adhering at their bases.

Species, Acetocella.—Scape one-flowered, longer than the leaves; leaves ternate, broad-obcordate, with round lobes; styles as long as the inner stamens; root toothed, flowers yellow, in spring. There are many species of oxalis, some stemless, others with stems and branches; but the leaves and flowers all bear so near a resemblance that they will be readily recognized. Found in shady places almost everywhere.

OXALIS ACETOCELLA.



Properties and uses.—The above and the oxalis stricta, with several other species, are very sour, like lemons or limes, for which they are excellent substitutes. They are often pressed and the juice is dried on plates in the sun; and this is preserved in earthen or glass vessels. When used, it should be spread on leather and applied to indurated ulcers and cancer sores, which it is said to have cured. I have used them in the form of the green herb bruised, scalded and put upon stone-bruises alone, or in a poultice. I can recommend both these and the rumex atriplicifolia, as excellent articles for such purposes. Cooked like green currants, with sugar, they make very fine tarts, and are good to restore the appetite and assist digestion.

24.—*Sympitium Officinale.*

CLASS, PENTANDRIA; Order, Monogynia; Natural Order, Boragineæ.

Genus, Sympitium.—Upper part of the corol tubular-swelling, the throat closed with awl-shaped projections.

Species, Officinale.—Leaves ovate-sub-lanceolate, margins running down the stem; rough; flowers yellow and white—cultivated. (Comfrey.)

Properties and uses.—The root is chiefly mucilaginous and a little bitter, and proper to be used as a substitute in all cases for slippery-elm; but on account of its other principles than mucilage, it is more valuable in many cases of debility of the bowels, the kidneys and the bladder, as it strengthens as well as cleanses those organs. It is excellent in poultices, and stops the undue discharge of blood and other fluids.

SYMPHITUM OFFICINALE.**25.—Comptonia—Asplenifolia.—(Sweet Fern.)**

CLASS, MONGCIA; Order, Triandria; Natural Order, Amentaceæ.

Genus, Comptonia.—Stamine flowers—ament cylindric, with scales one-flowered; corol, two-petaled or none; filaments three, each two-forked; anthers six. Pistilate flowers—ament ovate; corol (or calyx), six-petaled; styles two; nut oval, one-celled.

Species, Asplenifolia.—This is a shrub growing on mountains and sandy plains, principally in the Eastern States, and the Alleghany region. Its green flowers appear early in the spring before the leaves. The leaves are long linear, ten or twelve times as long as broad, alternately crenate pinnatifid, that is, unequally scolloped and notched on both edges. It is called sweet bush, sweet fern, fern bush, fern gale, spleen wort, etc.

Qualities.—The leaves emit a peculiar, strong, sweet, balsamic odor which is increased by bruising them. The taste is pungent. It contains benzoic acid, tannin and resin.—Rafinesque.

This is another plant of which I have made no use in my individual practice. I insert it because it is an approved article of the Botanic *Materia Medica*, and because my present object is, chiefly to make my friends

acquainted with the genuine articles whose medical powers are already indicated in their books. I am familiar with the plant; and know that it possesses the *sensible qualities* above ascribed to it, and that the cut is a good representation.

COMPTONIA—ASPLENIFOLIA.—(*Sweet Fern.*)



Properties.—It is said to be mildly astringent, stimulant and tonic, cephalic, balsamic, expectorant, secerent, deobstruent and healing, of all which I have no doubt. It is used chiefly as a vermifuge. It is worthy of trial in the weakening complaints peculiar to females, and especially in the bowel complaints of children; for, when sweetened and creamed, it is pleasant to the taste. The decoction of the leaves is the usual form in which it is given.

26.—*Aletris Farinosa*.—(*Stargrass.*)

CLASS, HEXANDRIA; Order Monogynia; Natural Order, Asphodelaceæ—Eaton; Aroidæ—Raf.

Properties and Uses.—I have never used this article in practice. It is said to be an excellent tonic bitter; in small doses strengthening the appetite and promoting digestion; but in large doses (a teaspoonful of the powder) it is

apt to vomit. Gives its strength best to alcohol; should therefore be used in tincture or conserve, in preference to decoction. I have exhibited the plant so that it may be known, and invite our friends to use it and note its properties and effects.

ALSTROEMERIA FABRICA.—(Star-grass.)



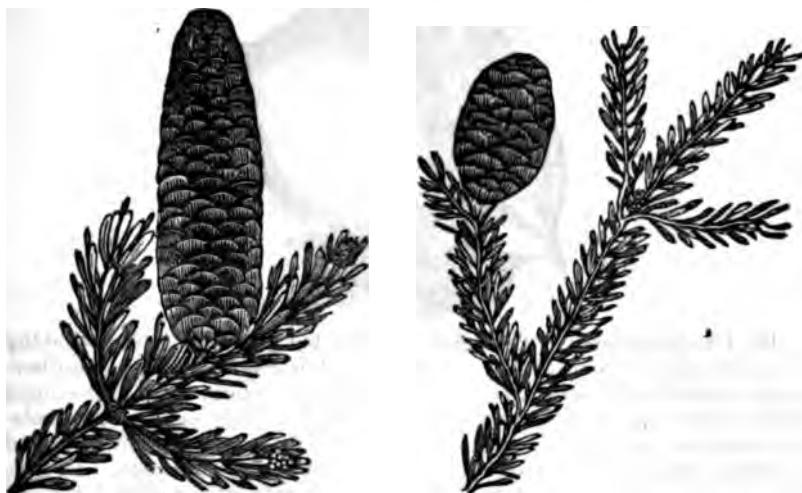
27.—*Pinus Balsamea*.—(Balsam Fir.)

CLASS, MONOCOTYLEDON; Order, Monadelphia; Natural Order, Coniferae.

Properties and uses.—The part used in medicine, is a balsam which is secreted in blisters between the cuticle and the thick bark. These contain from a drop to a large teaspoonful each. It is collected and put into junk bottles, and sold under the name of Canada or Fir Balsam. It is the most healing substance with which I am acquainted. Used alone, it closes the surface of a sore before the bottom is healed. Hence I combine it with beeswax, mutton suet, butter, and the decoction of elder or other barks or herba.

See healing salve. The bark is stimulant and emollient, and good for poultices, also for canker.

PINUS BALSAMEA.—(*Balsam Fir.*)



28.—*Betula Lenta*.—(Black Birch.)

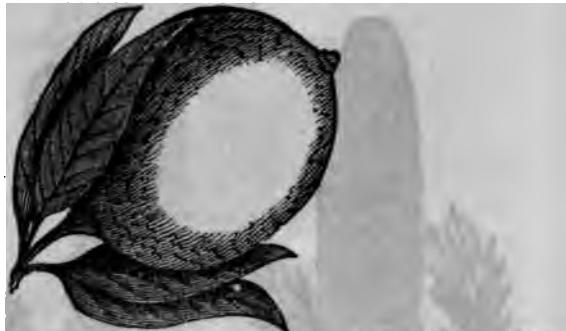


CLASS, MONGRIA; Order, Polyandria; Natural Order, Amentaceæ.

Properties and uses.—Astringent, stimulant, aromatic, spicy. Good to remove canker and to tone the system, as the stimulant and aromatic properties prevent the tannin from doing any thing more than to collect the phlegm in the stomach and bowels for removal. Made into a cordial, with peach meats or cherry stones, and poplar or bayberry bark, it is soothing and restoring.

The inner bark of the young trees or shrubs is the best. It loses strength by keeping.

29.—*Limonum, Citrus Medica*.—(The Lemon Tree.)



Dr. Dunglison says: "The juice is sharp, but gratefully acid, the acidity depending upon the citric acid it contains, and is given as a refrigerant beverage in febrile affections. In doses of half an ounce to an ounce, three times a day, it has appeared to exert a markedly sedative influence on the circulation, and has been given, apparently with benefit, in acute rheumatism and rheumatic gout. It is prescribed in scurvy, putrid sore throat, etc. Its general properties are refrigerant and antiseptic. Sweetened and diluted, it forms lemonade. Artificial lemon-juice is made by dissolving an ounce of citric acid in fourteen fluid ounces of water; adding a few drops of essence of lemon."

I can give my testimony to the truth of the above, and will add, as a reason for its "sedative effects" in fever and inflammation, that it neutralizes the excess of the alkali which generally exists in these conditions. Moreover, it is an excellent remedy in all cases of ulceration, as old sores, scald head, etc. It should be drank as lemonade and the sores should be washed with the expressed juice.

30.—*Hepatica Triloba*.



The plant was much used by the ancients, as an alterant in hepatitis or liver complaint; and many at the present day consider it valuable for this purpose. I have made no use of it in medical practice. I know it to be innocent.

31.—*Ulmas Fulva.*

CLASS, PENTANDRIA; Order, Diginia; Natural order, Amentaceæ.

Properties and uses.—Of this species there are two varieties, the red and the white bark; the latter is much more mucous and brittle and less fibrous than the former. It is used to moisten the parched mouth, to correct irritation of the throat, lungs, stomach and bowels, to lubricate all parts, to nourish weak stomachs, to relieve thirst, to give constant moisture and softness to a cataplasm, to roll up pills in; to aid in the action of enemas, etc., and, with charcoal and gum myrrh, to prevent mortification. Taken in large quantities, I have known it to expel worms by merely sliding them out of the body. It is one of the most valuable articles in the *materia medica*.

32.—*Abies Canadensis, Mx. Pinus Canadensis*—Eaton.

CLASS, MONOKIA; Order, Monadelphia; Natural Order, Coniferae.

Properties and uses.—A valuable astringent and antiseptic. The inner bark is used for medicine. It is ground fine and put into composition, or used by itself for the removal of canker. It is good to give with an emetic, to collect the phlegm and promote reaction. Also to use in enemas when the bowels are sore or debilitated. Wash old sores and chafes with the tea, then grease the latter. A gum oozes from fissures in the bark, which may be collected pure by boiling the bark and skimming off the gum, and is among the best articles for adhesive plasters. Spread the gum on a piece of leather, and sprinkle it over with cayenne, and it becomes a valuable counter-irritant to remove pain and soreness. A tea of the boughs is an excellent sudorific; a bed of them or a liniment of the oil, is a great remedy for rheumatism.

PROPERTIES OF PLANTS.

The vegetable kingdom is divided, rather arbitrarily, into trees, shrubs and herbs.

That which ascends, solitary, from the ground, from seed or root, with a tolerable degree of uniformity on all sides in the shape of its trunk and the distribution of its branches, and is composed chiefly of woody fiber, is called a tree.

That which arises from the ground in clusters, with irregularity in the shape of its trunk, and distributes its branches mostly outwardly from the center of the cluster, and is composed chiefly of woody fiber, is called a shrub. Many shrubs are twenty or thirty feet high, while some trees are not more than six inches high.

That which arises from the ground (either solitary or in clusters), and ascends (either with or without leaves or branches), and is composed chiefly of pith, a parenchymatous substance, and a few elastic or somewhat woody fibers, either scattered through the substance or arranged round the pith or a fistula instead of a pith, in a single layer, is called an herb.

The roots and trunks of trees and shrubs last many years, and are therefore called perennial.

Those of herbs last, some many years, as rannunculus, and are called perennial; some two years, growing from the seed the first and the root the next, as cabbages, and are called biennial; and some one year, growing from the seed every year, and are called annual.

A true biennial herb can not be made to come to maturity in a single season, in climates where its growth is suspended a portion of the year by cold; but a true annual is often made to appear biennial by its being sown in the latter part of the summer, when it gains a part of its growth that season and the balance the next, as wheat, rye, lobelia, all which, if the seed be sown early in the spring, will come to maturity in the fall and their roots will die, but if the seed be sown in the fall, the roots live through the winter; and produce their seed the next season.

All the parts of plants possess their respective properties during the whole period of their growth, in the greatest perfection when fully grown; and lose them when they die in the circumstances in which they grow. Therefore—

Herbs, during their growth, preserve their medical properties, commencing at the root, and continuing upward, through the stem and leaves, to the flowers and seeds, until fully grown, when the root begins to die, and the properties ascend from it toward the seed, where, at last, they are the strongest. Even the virtues of the leaves, after they get their full growth, often go into

the seed, which will not be so well developed if the leaves are plucked off early, as corn fills and ripens best when the leaves are left on the stalks until they die. In the annual and biennial plants, the root is worthless after the seed is ripe, and the stem also is of very little value; what virtue there is, residing principally in the bark, and the leaves also lose their properties as fast as they lose their freshness. All leaves and stems that have lost their color, or become shriveled while the roots are in the earth, have lost much of their medicinal power, and should be rejected from medicine. It follows that,

The roots, stems and leaves of herbs, while all parts are growing, are good for medicine; that,

Of annuals, the roots and stems become useless as the seeds ripen, and the leaves as they lose their plumpness and change their color. Therefore,

During the growing season, use all parts of the plants, if scarce; and the most perfectly developed parts, if plenty.

Of annuals that are ripe, reject the roots and stems; of biennials, use the whole the first year, the root in the fall, after the stems are dead and until they commence growing in the spring; afterward, the shoots, leaves and seeds, in succession, until the latter are ripe, when they are the strongest, as before stated. Of perennial plants, the root is always good until its full growth, and the bark is the strongest part of the root, and also of the stem.

Of shrubs and trees, the woody fiber does not increase much after the first year, and the virtues pass into the bark and leaves, flowers and fruit. When the bark becomes old and dead and cracks, as the ross of trees, it loses its virtue, as the leaves do when they become yellow and brittle. The inner bark, then, is the only medicinal part, and the bark of the root is the strongest, and even that of the north side of the tree is usually stronger than that of the south side.

To the above general rules there are a few slight exceptions which can be remembered, if not learned, far better by a little practical tasting and trial, than by any oral or written instructions.

Though the roots, stems, branches, twigs, leaves, flowers and fruit, are useful in proportion to the strength of their sensible properties, yet these different parts do not always contain the same properties. The root may be prominently acid or bitter, while the leaves may be astringent and slightly emollient, and the flowers and fruit principally mucilaginous, and different parts of the same plant may answer different purposes. Thus the roots and stems of celery grown in the ground are good for food, while the green tops are poisonous. The ripe May-apple, podophyllum peltatum, is considered good food, and the leaves poisonous, while the root is a first rate medicine for the lovers of drastic physic. So the leaves of the tomato are narcotic and poisonous, while the ripe fruit is delicious and wholesome. In the stramonium, this is partially reversed; the ripe seeds being a deadly poison, while the leaves are quite mild, if not comparatively innocent. In my Materia Medica, which I hope some day to publish, I shall endeavor to present these peculiarities in connection with each article, as I now do in my lectures upon it.

Gathering and Preserving Medicines.

From the above principles, which are the fruits of observation and experience, not of closet speculations nor of book worming, I deduce the following instructions for gathering plants, and preserving them.

1. Of a growing and thrifty annual, whose root and stem are still juicy, you

may gather the whole. Taste its several parts, and if you find the root composed of one class of sensible properties, or chiefly of a single property, as bitterness, astringency, acridity or emolliency, etc., and other parts to differ from it in these respects, then separate these parts as you gather them, and preserve them separate for the special uses to which they are adapted, throwing away all, if any, that contain injurious properties. If you find the different parts to contain the same properties in different degrees of strength, still preserve them separate for the different degrees of demand for their use, in the indications of medical treatment. But if they all possess the same properties in the same degree, collect and cure them together. Thus, in the young and growing state, all parts of lobelia inflata may be preserved together. When nearly grown, the roots and large stems and branches should be rejected, preserving only the soft twigs, leaves and fruit; and when fully ripe, the leaves yellow, and the capsules dry, the seeds are the only part worth saving. As, however, the seeds on the stem and large branches of this plant ripen first, and the twigs continue to put forth flowers until the frost nips them, the upper capsules are good until that event happens, and only the old dry branches, leaves and capsules should be rejected.

Take then the parts of an herb that you select (or the whole, if the refuse is not burdensome, and the difficulty of separating is trifling), and carry them to your residence, separate the distinct portions, as the roots, leaves and fruit, spread the leaves and flowers on newspapers (which should be spread on boards, as grass would keep them damp underneath), in the sun to dry, as soon as the dew is off the ground in the morning. Leave them on the papers, if the sky is clear, until the dew is about to fall in the evening, say four or five o'clock, then rub them in your hands until the dryest parts crumble to powder, which must be left on the paper, and the balance that is so tough that it will not thus pulverize, must be put on a fresh paper and these should be rolled up and carried into a dry room, where they must remain until the next fair day, when they should both be returned to the sun and spread out.

The dry powder of two of the first day's papers, may now be put on one, and the tough parts should remain on another, until noon, when they all may be stirred up so as to give the sun access to the bottom. At evening, the second day, that which crumbled the first, will be fit to pack into glass jars, stone crocks or strong papers, and put away in a dry room, high from the ground. Glass jars full of leaves, or powders of any of the plant, should not be put into a window, for the strong light of the sun decomposes and deteriorates them.

The tough parts should be crumbled at evening as before, and put out every clear day until they are so dry that they are perfectly brittle, and may be ground to a fine powder without mashing or wadding, and then put away as the others. The first being composed of the parenchymatous portion of the leaves and the tenderest of the midribs and twigs, will make the finest and strongest powder for compositions, and to be taken in substance. The second will be coarser, but quite as good to make teas of for courses, and much more convenient in decoctions for straining. It may be pressed into kegs or barrels or close boxes, and put into the same dry room.

Roots.—The roots of plants should be collected, if annuals, before they begin to dry up; if biennials, during the first season and the stationary stage of fall and winter (for in the second summer their virtues ascend, and in the fall they die), and the roots of the perennials should be dug while growing or when fully grown, plump and fresh, which they will not be in the second spring and summer, and thoroughly washed at once. All the dead, shriveled

and dry stalks and roots should be separated from the plump and moist, and thrown away ; the small fibers always being carefully retained, as they often, as in blackroot, contain the most of the medicinal power. If collected in the second summer, they shrivel in drying, their bark will be wrinkled and the root chiefly fibrous and of little value. If small, they may be spread on clean boards (in the sun as for leaves), to dry. If large, they should be sliced thin across the grain (in a cutting machine as for straw, if you have one), and put out every fair morning and taken in every evening, until they are all, including the largest, perfectly brittle, when they may be ground to powder and put into jars or papers, as the leaves. Or they may be put into casks, barrels, or boxes in the crude state.

Barks.—Barks should be gathered in the spring, when the sap is ascending, and they will slip clean from the wood. (If the ross is thick, shave it off before stripping it from the wood, if thin as paper, as in yellow birch or dwarf elder, and many species of young trees or shrubs, and will not readily separate, let it remain on.) Cut it in a machine like a cutting-knife for oats, into pieces not more than half an inch long, and spread these, as the roots, on boards to dry. Boards are best for roots and barks, as their juices would wet and spoil papers. They should be put out in the sun and in a dry room at night and in damp weather, until they become perfectly dry and brittle, when they may be ground and preserved or kept crude, as the herbs and roots.

Objections have been made to drying herbs, roots and barks in the sun, and we have been taught to dry them in lofts. But the plan above named removes those objections, as it is not the drying in the sun that hurts the plant, but the admission of moisture to them while drying, which my plan prevents. Moreover, when dried in an open loft, the moisture of evenings and of damp days gets on them and injures them, and when they are dry they are *tough*, so that he who pulverizes them must dry them by the fire, in ovens or on kilns, before he can grind them, and this often entirely ruins them.

Gums.—Take the bark of the seam on which the gum is exuded, as of hemlock, spruce, tamarach, etc., and boil it in water and the gum will be dissolved and will rise to the top, when it can be skimmed off, and preserved in pots or kegs.

Resins.—Take the resinous exudations and make a tincture with alcohol, then distill off the alcohol, and you have it to use again, while the resin remains in the still.

Gum-resins.—Where gums and resins are found together, as in gum myrrh, make a tincture with alcohol for the resin, and boil the residue in water for the gum.

Turpentine is obtained by cutting a cup notch in the different species of pine, and taking out the turpentine as it comes into the notch, both from above and below. It is used with burgundy pitch, or with rosin, to make plasters, and with beeswax and mutton tallow, and oils or butter, to make healing salves.

Balsams.—The balsam of fir is taken from blisters on the tree. Others are mostly purchased from abroad.

It has been often said that we must use alcohol to cut resins with, as number six. If you wish to separate the resin from the gum you must ; but you are not even then obliged to drink alcohol, for you may distill it off and roll the resin into pills and swallow them. But gum myrrh is often quite as good when reduced to a powder in a mortar with bayberry, and swallowed with sugar or molasses, or in a pill, as when taken in the form of a tincture and then you get the gum as well as the resins. In fact, the gum-resins are obtained more perfectly by the use of common domestic proof spirits,

particularly peach or cherry brandy, or rye and juniper gin, than by pure alcohol, and it is as much cheaper as it is better.

Specifics.—From the fact that I have arranged the various articles of the *materia medica* under different heads, as emetics, cathartics, sudorifics, expectorants, diuretics, emmenagogues, etc., I may seem to give sanction to the popular empirical doctrine of specifics, which as commonly understood and taught, I entirely reject. It may therefore be proper here to state precisely what I mean by the term.

I believe that every simple article termed an external agent, produces a peculiar effect on the animal body, thus: warmth always expands it, and tannin always contracts it; that every compound agent, not separable by the system, as water and air, has one and the same peculiar effect, at all times and under all circumstances; and that all compound agents the elements of which are decomposable, by the vital power, produce with like precision the compound result which we might expect from the character and relative power of their simples. And this peculiar action of each article or compound I call its specific action. I believe the structures of the human body to be composed of different tissues, as osseous, cellular or fibrous, muscular and nervous; and that, if an external agent produces to-day, a given effect upon any one of these tissues, it has a tendency to produce the same effect to-morrow on the same tissue, not only in one part of the body, but in every part. Thus, lobelia *produces* a relaxation, and *provokes* a reaction of the nervous system: and this it does, to whatever portion of that system you apply it. You may give it to the stomach or the bowels, or inhale its odor or its vapor into the lungs, you may inject it into the veins or rub it into the absorbents of the surface, and the result is the same. It *produces* relaxation of the nervous system and provokes reaction—tending to emesis, in which it always results, when there is foul matter in the stomach and sufficient vital power in the body.

So tannin, applied to the muscular tissues in any part of the body, always produces contractions, so far as it produces any influence at all. Then, cayenne, wherever applied, produces an excitement of the nerves, heart and arteries, and of course the muscles partake of the influence. Finally, mucous substances always lubricate the tissues, quiet irritation, and relieve inflammatory action.

It follows, of course, first, that when any other effects than the above, are seen to follow the administration of these articles, they must always be attributed to the action of other agents than these, to which the attention of the practitioner should be directed. For example, since lobelia possesses no power to destroy human life, if a person should die with some of it in him, the death should be attributed to something else than the medicine. Second, that a medicine which is good to promote a given effect in one form of disease, will be equally good for the same purpose in another form of disease, or, in other words, for the same condition of the same tissue in every other part of the body. There is, therefore, no such thing as a medicine for a particular symptom in one form of disease, that is not equally good for the same symptom in every form; that is, there is no such thing as a specific in the popular sense of the term.

Local Application of Remedies.—In the light of the above principles in relation to the action of remedies on the different tissues of the body, we see the importance of applying our remedies, in all cases, as near as possible to the parts to be affected by them. Thus, if the stomach is to be excited to a given action, convey your remedies to that organ; if the lungs, inhale the

odor of your remedies ; if the lower bowels, give them by enema ; if the surface, apply them to that tissue ; all this is done directly. If the liver, middle intestines, kidneys, or other deep-seated organs are to be affected, the nearest application is to the stomach and surface.

In the application of nervines it is generally sufficient to administer remedies to the stomach (though it is always better to apply them as extensively as possible), because the influence of these is transmitted by the nervous system, all over the body, though the substance of many is carried no further than the tissues it at first affects. Antispasmodics and pure stimulants, relaxing and exciting the tissues, are absorbed into the circulation, and transmitted through the system ; but, astringents producing an immediate constriction of the absorbents, raise an impassable barrier to their absorption, and, of course, operate chiefly on the primary tissues. Consequently, it is very important that these should be applied, as nearly as possible, to the parts to be affected by them, and if so, it is no less important to the full and speedy accomplishment of the object, to apply at the same time, all the means that are best calculated to fulfill all the indications of the case. Thus, if a case would be relieved by an emetic alone, or by a bath alone, or by a little composition tea, it will be far more likely to be entirely cured by the application of all these means about the same time. If the emetic relieves a spasm or a fever, a still greater benefit will be gained by an immediate continuation of alterants of a relaxing and nervine character. If a bath does good in a cold inactive state of the surface, then friction with stimulants immediately after it, will continue and increase the beneficial effect thus commenced, and so on.

In accordance with these principles, it will be seen that a number of articles of medicine are ranged under different heads : Thus various aromatic herbs, as sage, catnip, hoarhounds, etc., are ranged under the names diaphoretic, sudorific, antispasmodic, diuretic, expectorant, nervine, etc., to all which characters they are entitled by virtue of their relaxing and diffusive properties. These views of the subject also explain, and give a reason for, the fact so often observed by, and so perplexing to physicians, that the same medicine sometimes proves sudorific, sometimes diuretic, sometimes emmenagogue, etc. These medicines, always possessing a relaxing and slightly stimulating power, find the system sometimes hide-bound, and sometimes suffering under dysuria, sometimes under amenorrhea, etc. (in all which cases the vital power is endeavoring to restore equilibrium), and their effects being the most easily manifested in the parts where nature is making the strongest efforts, in harmony with their powers ; hence they relieve the constitution wherever it is, and consequently get the name of being now sudorifics, then diuretics, antispasmodics, nervines, emmenagogues, sialagogues, expectorants, etc., as the case may be ; and, in this same empirical way, have nearly all the articles of the *materia medica* found their places and their ranks in the pharmacopias, and dispensatories, while those who put them there, knowing little or nothing of the principles on which they act, are unable to explain it, and, of course, to hide their real ignorance, and appear wise above what is actually written in their craniums, pronounce them *specifics*, and this winds up the chapter. "I've tried it and know it's so ; you may try it, and you'll find it so," is the *ultima thule* of their philosophy.

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G L O S S A R Y

OR

MEDICAL TERMS USED IN THIS WORK.

Abscess , an internal ulcer.	Capsules, seed vessels composed of cells, one or more, with dry, membranous walls and partitions.
Adnata , the mucous coat that covers the inner surface of the eyelid, and the outer of the eyeball, back of the cornea.	Cardialgia , pain in the heart.
Adynamia , weak, relaxed state.	Caries , rotteness of bones.
Albuminous , like the white of an egg.	Cathartics , articles that excite rapid motion through the bowels, and draw the action inward.
Algia , pain.	Cerebrum , the upper portion of the brain.
Anastomosis , the opening of one vein or artery into another, by a short branch.	Cerebellum , the little or lower brain.
Anatomy , from <i>ana</i> , through, and <i>temno</i> , I cut; the science of the organs of the body, their positions, relations, etc.	Chancre , a syphilitic sore.
Aneurism , a local enlargement of an artery, or a bursting of it, and the accumulation of the blood in a part.	Chachexy , feverish habit,
Antispasmodics , agents that relax tissues.	Collapsing , falling together.
Aphtha , sore spots or patches.	Coma , intense morbid sleep.
Aphorism , a short, pithy expression of a fundamental principle.	Congestion , accumulation.
Apoplexy , paralysis of the brain by a sudden rush of blood to it.	Conjunctiva , the mucous membrane that covers the eyeball and the inside of the eyelid.
Aponeurosis , the expansion of a muscle or tendon into a thin plate.	Contagious , communicated by touch or contact.
Aromatic , emitting particles, pleasant or unpleasant, that may be recognized by the sense of smell.	Convulsions , violent spasms of the muscles, fits.
Asphyxia , want of pulse.	Costo-sternal , from the ribs to the breast bone.
Assimilation , the reduction of food to blood, the making of any thing like another.	Credat qui vult , Latin, believe it who will.
Asthenic , weak, debilitated.	Defecation , discharge of faeces.
Atony , want of strength.	Demulcents , mucilaginous substances.
Atrophy , a wasting of matter or of power.	Deglutition , swallowing.
Bifurcation , forking.	Depletion , removal of the fluids of the body by lancets, physic, emetics, diuretics, sudorifics, etc.
Bubo , a swelling of the glands of the groins at the lower abdomen.	Dermoid , belonging to the skin.
Borborygma , tympany, flatulency, a rumbling in the bowels.	Diagnosis , decision respecting the present state or character of disease.
Calculi , stones in the bladder.	Diaphragm , the partition between the chest and the abdomen.
Cantharides , spanish flies, blisters.	Diaphanous , translucent, pellucid.
Capillaries , hair-shaped vessels, the last subdivisions of arteries, and the first or absorbing ends of veins.	Diathesis , diseased state or condition.
	Dynamia , tension, rigidity.
	Dyspnoea , difficulty of breathing.
	Emesis , vomiting, puking.
	Emmenagogues , promoters of menstruation.

Empresma , oppression.	Hysteria , disease of the uterus and its appendages.
Encephalon , the cranium with its contents.	
Endemic , arising from local causes.	Ichorous , thin, watery, serous.
Entony , too much strength.	Idiosyncrasy , peculiarity of constitution.
Epidemic , a disease that prevails generally for a time, and then passes off, dependent chiefly on atmospheric changes of heat and moisture.	Inpressible , capable of being influenced by the will or touch of another.
Epiglottis , the valve that covers the upper end of the windpipe.	Impressibles , persons so easily affected as to be easily and fully convinced of it.
Eructations , belchings, efforts to vomit.	Inflammation , accumulated irritation and arrested circulation in the arterial capillaries.
Escharotics , agents that decompose the semi-vital flesh.	Ingesta , what is taken into the body as food, medicines or poisons.
Essence , a being, an existence, whether it answers the description of matter or not; the most subtle part of any thing.	Innervation , increase of strength.
Eustachian tube , that which leads from the ear to the pharynx or the posterior cavity of the mouth.	Intermittent , entirely subsiding, and afterward returning.
Exacerbation , increased excitement, paroxysm.	Intumescence , a swelling.
Excretory , casting off from the system.	Itis , these letters are added to the name of an organ to signify inflammation of that organ, as lingoitis, bronchitis, inflammation of the tongue and bronchia.
Excrementitious , prepared for discharge from the system, faecal.	Laminated , in plates, like the leaves of a book.
Expectoration , spitting, discharging matter from the lungs.	Lethargy , drowsiness, stupor.
Extravasation , effusion of blood from the vessels into the cellular tissues.	Libidinous , carnal, lustful.
Fascia , investing membranes.	Lymph , material secreted for the reparation of injuries; also the unappropriated nutritive material of the circulation, taken up by the lymphatics and returned to the heart.
Fauces , the back part of the mouth at the root of the tongue.	Lymphatic temperament , one largely supplied with absorbents, glands and abdominal viscera.
Fomentation , partial steamings by the use of hot and moist substances, as scalded herbs, boiled potatoes, hot yeast, etc.	Macerate , to rot out under water.
Fontanels , the open spaces through the craniums of infants, on the top and under the crown.	Manipulations , operations with the hands.
Fistula , a hard, semi-vital pipe in the flesh.	Marasmus , a wasting away.
Ganglia , knots on the nerves.	Mediastinum , the partition which divides the right side of the chest from the left, and passes from the sternum to the spine.
Gangrene , mortification.	Meninges , investing membranes of the brain.
Gelatinous , like jelly.	Menorrhoea , too free flow of the menses or monthly discharges.
Glands , see pp. 67, 68, 75	Menstruation , monthly evacuation.
Glottis , the upper end of the windpipe.	Mesentery , the membrane that includes the bowels, and fastens them to the spine.
Gregarious , going in companies.	Metastasis , change of place.
Hæmoptysis , spitting of blood	Micturition , desire to void urine.
Homogeneous , of one kind.	Momentum , the force with which a body in motion strikes another.
Hydatids , sacks of watery fluids, usually in clusters.	Morbid , dead, (once alive).
Hypertrophy , morbid enlargement or expansion.	Morbific , making death or tending to produce death.
Hypochondrium , region about the lower ribs.	
Hypothesis , supposition.	

Morphine, morphia, an alkaloid preparation from opium, very poisonous.	Prostate gland, that lying under the back part of the urethra.
Narcotics, substances that depress the nervous system, and thereby relieve pain and promote sleep—deadly poisons, not to be used for any purpose.	Puerperal, relating to childbirth.
Neuralgia, pain in the nerves.	Pylorus, the lower orifice of the stomach.
Neurology, the science of the nerves, and their actions.	Quartan, occurring every third day.
Neuraura or noveaura, vital emanation from the nerves.	Quotidian, occurring every day.
<i>Ne plus ultra</i> , Latin, the greatest extent.	Recrementitious, refuse rejected.
Nosology, classification of symptoms.	Regimen, government, general conduct.
Nosodynamia, excessive tension.	Remittent, partially subsiding, then returning.
Œdema, cellular swellings that pit on pressure.	Resolution, absorption of morbid matter that threatens to accumulate, and to suppurate; a scattering or diffusing of the matter of a tumor.
Omnivorous, all-devouring.	Sebaceous, oily, fatty.
Organic, arranged into fibers or tubes, for vital uses.	Secretory, elaborating a fluid for physiological uses.
Ossification, the formation of bone.	Sigmoid, like the letter <i>s</i> .
Palliates, medicines or powers that only mitigate disease.	Sordes, tartar or canker about the teeth, and other places.
Paralysis, loss of nerve power.	Specifics, medicines supposed to be adapted to a particular organ, and no other. There is no such article, but all medicines produce specific effects upon the same tissue wherever located.
Parenchyma, the material distributed among the fibers of an organized body, as that between the nerves and veins of a leaf, the substance of an organ except its nerves, vessels, tendons, bones and membranes.	Splanchnic, belonging to the intestines.
Parenchymatous, fleshy.	Sphincter, a circular muscle or band.
Paresis, want of power to act.	Stercoraceous, faecal, excrementitious.
Parietes, walls or inclosures.	Sthenic, strong; asthenic, weak.
Paroxysm, high excitement.	Strangury, pain and griping in the region of the bladder.
Parturition, childbirth.	Strangulation, confinement by choking, as in hernia.
Pathology, the science of disease.	Suppuration, turning to pus, and passing off.
Peripneumonia, inflammation of the external coat of the lungs.	Sympathy, fellow feeling.
Peritoneum, the inner lining of the abdominal walls, the lower part of the diaphragm, and the outer of the stomach, liver, kidneys, spleen, and intestines.	Syncope, fainting, swooning.
Phlegmasia, inflammatory action.	Synocha, the strongest grade of acute fever.
Physic, a medicine that irritates the alvine canal, invites the circulation too freely to it, and excites watery stools.	Synochus, a weaker grade of acute fever.
Physiology, the laws of nature or health.	Synochoid, like synochus.
Physiological or physical, natural.	Synocula, mild synochus.
Physiological system, one built on the laws of health.	Tenesmus, ineffectual effort to stool accompanied by griping and straining.
Plethora, fullness of vessels.	Tentorium, the membrane that separates the cerebrum from the cerebellum.
Pleura, the internal lining of the chest, and the external of the lungs.	Therapeutics, the science and the art of medication.
Plexus, a union or a distribution of several nerves.	Tonicity, strength, contractile power.
Precordial, before the heart.	Toxicology, the science of poisoning and of neutralizing poisons in the system, or of removing them from it.
	Tubercle, see pp. 251-9

Tumefaction, making a swelling.
Turgescence, thickening and wrinkling.
Tympany, a light and sonorous swelling
of the abdomen.
Type, of fever, 207, 221.
Typhus, hidden or oppressed, a low
grade of fever.

Urethra, the urinary canal.

**Uvula, the pliant partition of the velum
palati; or outer palatine curtain.**

Venesection, bloodletting.
Ventricles, cavities of the heart.
Vermiparous, wormy.
Vis medicatrix Nature, the healing power
of nature.
Viviparous, born alive.

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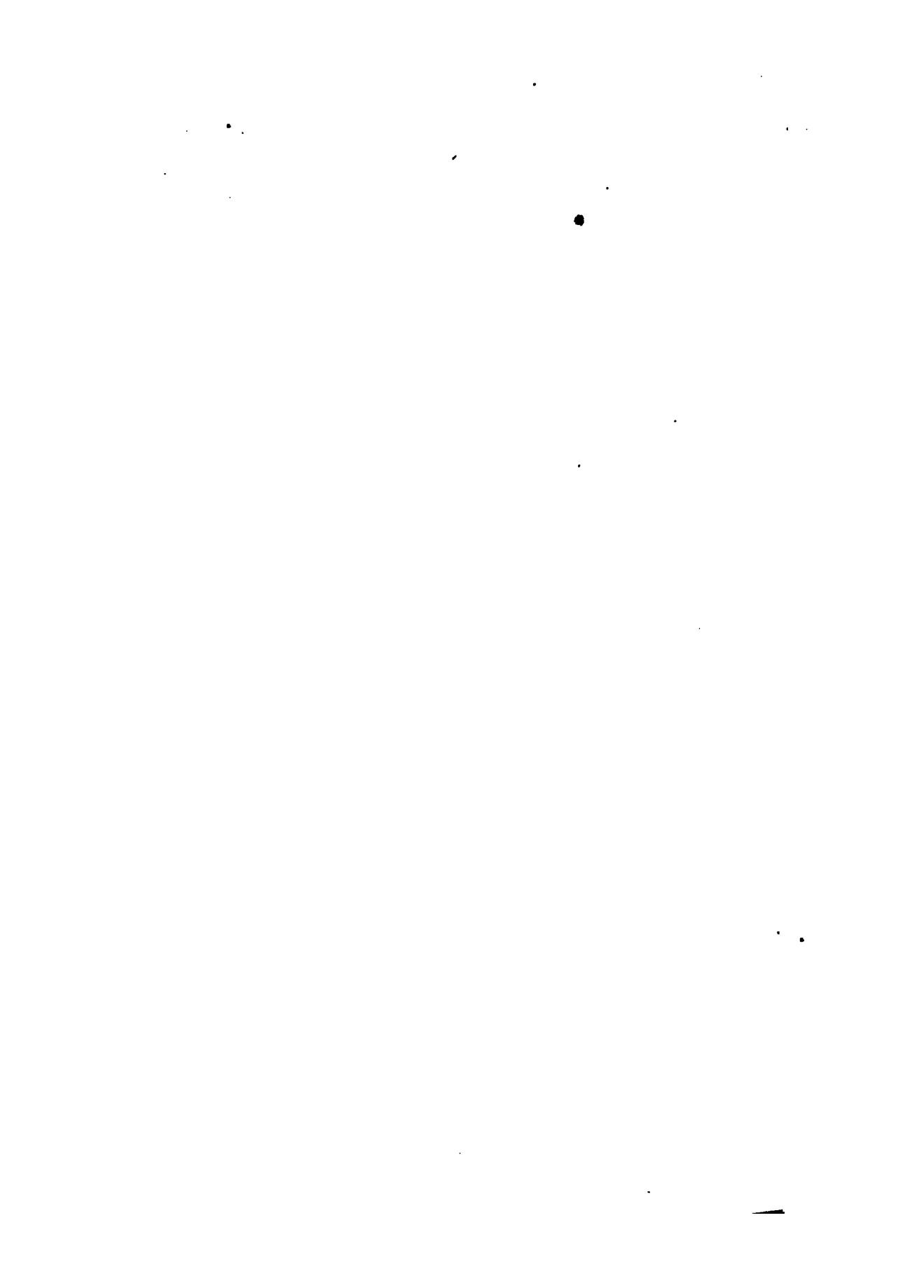
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